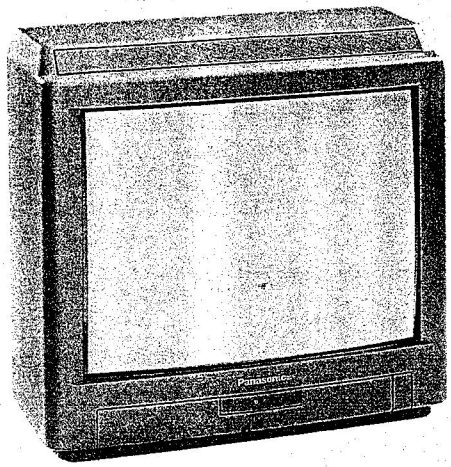
ORDER No. SM 91042

Service Manual



Colour Television

TX-21M1TD
TC-21M1RD
Z4 Chassis

Specifications

Power Source:	230 V AC, 50 Hz
Power Consumption:	75Wh
Aerial Impedance:	75 Ω unbalanced, Coaxial Type
Receiving System:	PAL-B, G SECAM-D,K
Receiving Channels:	VHF E2-E12 VHF H1 - H2 (ITALY) VHF A - H (ITALY) UHF E21-E69 CATV S01-S05 CATV S1-S20 HYPER S21-S41
Intermediate Frequency:	Video 38.9 MHz Sound 33.4 MHz Colour 34.47 MHz (PAL) 34.5 MHz (SECAM) 34.65 MHz (SECAM)
Video/Audio Terminals: (Rear of TV)	
21 pin IN	Video 1 Vp-p 75 Ω Audio 0.67 Vrms, 10k Ω
21 pin OUT	Video 1 Vp-p 75 Ω Audio 0.67 Vrms, 1k Ω (100 % modulation)
S-Video (4 pin) IN	Y : 1 Vp-p 75 Ω C : 0.3 Vp-p 75 Ω
Audio(RCA x 1)	0.67 Vrms, 10k Ω
Video/Audio Terminals: (Front of TV)	
Video(RCA) IN	1 Vp-p 75 Ω
Audio(RCA) IN	0.67 Vrms, 10k Ω
High Voltage:	26.5 kV at zero beam current
Picture Tube:	55cm Diagonal 90° deflection
Audio Output:	
Internal Speaker	3W (Music Power) 8 Ω Impedance
Speaker:	12.5cm x 7.5cm Oval
Accessories supplied:	Remote Controller 2 x R6 Battery
Dimensions:	Height: 490mm Width: 515mm Depth: 485mm
Net Weight:	22.5kg

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

NOTE : The Model TC-21M1RD is Teletext adaptable when used with : Teletext Adaptor Model TY425

Technische Daten

Netzpannung:	230 V AC, 50 Hz
Leistungsaufnahme:	75Wh
Antennenimpedanz:	75 Ω asymmetrisch, Koaxial-Typ
Empfangssystem:	PAL - B,G SECAM-D,K
Empfangsbereiche:	VHF E2-E12 VHF H1 - H2 (ITALY) VHF A - H (ITALY) UHF E21-E69 CATV S01-S05 CATV S1-S20 HYPER S21-S41
Zwischenfrequenz:	Bild 38,9 MHz Ton 33,4 MHz Farbe 34,47 MHz (PAL) 34.5 MHz (SECAM) 34.65 MHz (SECAM)
Video/Audio Anschüsse: (Rückseite des Fernsehers)	
21 pin Eingang	Video 1Vs-s 75 Ω Audio 0.67 Vrms, 10k Ω
21 pin Ausgang	Video 1 Vs-s 75 Ω Audio 0.67 Vrms 1k Ω (100 % modulation)
S-Video Eingang (4 pin)	Y : 1 Vp-p 75 Ω C : 0.3 Vp-p 75 Ω
Audio (RCA x 1)	0.67 Vrms, 10k Ω
Video/Audio Anschüsse: (Vorderseite des Fernsehers)	
Video(RCA) Eingang	1 Vp-p 75 Ω
Audio(RCA) Eingang	0.67 Vrms, 10k Ω
Hochspannung:	26.5kV bei Nullstrahlstom
Bildrohre :	55cm Diagonale, 90° Ablenkung
Ton Ausgangsleistung:	
Einbaulautsprecher	3W (Musikleistung) 8 Ω Impedanz
Lautsprecher:	12.5cm x 7.5cm Oval
Mitgeliefertes Zubehör:	Fernbedienung 2 x R6 Batterien
Abmessungen:	Höhe: 490mm Breite: 515mm Tiefe: 485mm
Gewicht:	22.5kg

Änderungen der technischen Daten vorbehalten.
Gewichte und Abmessungen sind Näherungsangaben.

Hinweis : Das Modell TC-21M1RD kann mit dem Nachüstsatz TY425 für Teletext (Videotext) nachgerüstet werden

Panasonic

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are properly installed.
4. When the receiver is not to be used for a long period of time, unplug the power cord from the AC outlet.
5. Potential, as high as 28.0 kV, is present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not throughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the receiver chassis before handling the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, aerials, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

SICHERHEITSVORKEHRUNGEN

ALLGEMEINE RICHTLINIEN

1. Es ist empfehlenswert, einen Trenntransformator in die Stromversorgung zu schalten, bevor Reparaturen an einem Gerät vorgenommen werden, dessen Chassis unter Spannung steht.
2. Bei der Durchführung von Servicearbeiten dürfen die ursprünglichen Kabelanschlüsse nicht vertauscht werden. Dies gilt insbesondere für die Anschlüsse im Hochspannungsteil. Hat sich ein Kurzschluß ereignet, dann sind alle Teile, an denen Spuren von Überhitzung sichtbar sind, auszuwechseln.
3. Nach Beenden der Servicearbeiten ist sicherzustellen, daß alle Sicherheitsvorrichtungen, wie Isolationsstege, Isolationspapiere, Abschirmungen und Isolations - R -C - Glieder wieder richtig eingesetzt sind.
4. Wenn der Fernseher während längerer Zeit nicht in Betrieb gesetzt wird, sollte der Netzstecker aus der Netzsteckdose gezogen werden.
5. Im Betrieb sind Spannungen bis zu 28.0kV in diesem Gerät vorhanden. Die Inbetriebnahme des Fernsehers ohne aufgesetzte Rückwand bringt die Gefahr eines elektrischen Schlages von der Fernseher - Stromversorgung mit sich. Servicearbeiten sollten daher auch nie durch Personen versucht werden, die nicht in vollem Umfang mit den Sicherheitsvorkehrungen beim Umgang mit Hochspannungsgeräten vertraut sind. Vor der Handhabung mit der Bildröhre ist die Anode der Bildrohre immer an dem Empfängerchassis zu entladen.
6. Nach Beenden der Servicearbeiten sind die folgenden Kriechstrom-Prüfungen durchzuführen, um den Kunden vor der Gefahr eines elektrischen Schlages zu schützen.

MESSUNG DES ISOLATIONSWIDERSTANDES IM ABGESCHALTETEN ZUSTAND

1. Den Netsztecker aus der Netzsteckdose ziehen und die beiden Steckerstifte kurzschließen.
2. Den Geräteschalter des Fernsehgerätes einschalten.
3. Mit einem Ohmmeter den Widerstandswert zwischen dem überbrückten Netzkabelstecker und jedem zugänglichen Metallteil am Gehäuse des Fernsehgerätes, wie Schraubenköpfe,Antennen, Achsen der Regler, Griffassungen usw.messen. Wenn ein zugängliches Metallteil eine Rückleitung zum Chassis hat, sollte die Anzeige zwischen 4M ohm und 20M ohm betragen. Wenn ein zugängliches Metallteil keine Rückleitung zum Chassis hat, muß die Anzeige unendlich betra-

LEAKAGE CURRENT HOT CHECK (See Fig 1)

1. Plug the AC cord directly into the AC outlet. Do not use the isolation transformer for this check.
2. Connect a 2 k ohm, 10W resistor, in series with an exposed metallic part on the receiver and an earth such as water pipe.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1.4 volts RMS. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT

SCHALTUNGSAUFBAU FÜR PRUFUNG IM EINGESCHALTETEN ZUSTAND

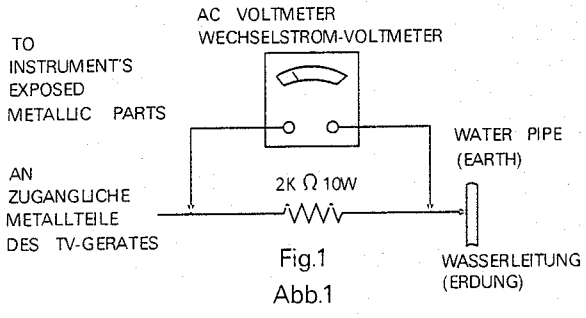


Fig.1
Abb.1

X-RADIATION WARNING:

1. The potential sources of X-Radiation in TV sets are the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 28.0 kV without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Set the service switch to the SERVICE position.
3. Measure the High Voltage. The meter reading should indicate 26.5 (+0.7 / - 1.5)kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent an X-Radiation possibility, it is essential to use the specified tube.

SHUT DOWN CIRCUIT TEST

This test must be made as a final check before the set is returned to the customer.

1. With the rear cover removed, supply nominal 230V AC to the set, turn on the power switch.
2. Receive a Phillips pattern.
3. Supply - 40 V DC to TPE7, and confirm that the shut down circuit does not operate.
4. Supply - 60 V DC to TPE7, and confirm that the shut down circuit operates.

MESSUNG DES KRIECHSTROMS IM EINGESCHALTETEN ZUSTAND (Siehe Abb. 1)

1. Den Netzstecker direkt in eine Netsteckdose stecken. Für diese Messung keinen Trenntransformator verwenden.
2. Einen 2k ohm /10 W - Widerstand in Serie mit einem von außen zugänglichen Metallteil am Fernsehgerät und einer guten, Erdung z.B. Wasserleitung, anschließen.
3. Ein Wechselstrom-Voltmeter mit einem Meßbereich von 1000 Ohm/Volt oder größer verwenden, um die Spannung über den Widerstand zu messen.
4. Jedes zugängliche Metallteil prüfen, und an jedem Punkt dies Spannung messen.
5. Den Netztecker umgekehrt in die Steckdose stecken und jede der obigen Messungen wiederholen
6. Die Spannung darf an keinem der Punkte 1.4V eff. überschreiten. Wird dieser Wert nicht eingehalten, besteht die Gefahr eines elektrischen Schlages, und das Fernsehgerät sollte daher repariert und nachgeprüft werden, bevor es an den Kunden zurückgegeben wird.

RÖNTGENSTRAHLUNG

ACHTUNG:

1. Potentielle Quellen von Röntgenstrahlung in Fernsehgeräten sind das Hochspannungsteil und die Bildröhre.
2. Bei Verwendung eines Bildröhren-Prüfgerätes für den Service ist sicherzustellen, daß es für die Belastung von 28.0 kV geeignet ist, ohne daß eine Röntgenstrahlung verursacht wird.

ANMERKUNG: Es ist wichtig , daß ein präzises, regelmäßig geprüftes Voltmeter verwendet wird.

1. Helligkeit auf Minimum stellen.
2. Den Service-Schalter in die 'SERVICE' - Position stellen.
3. Die Hochspannung messen. Die Anzeige des Instrumentes sollte 26.5 (+0.7 / - 1,5) betragen. Falls die Anzeige diese Toleranzgrenzen überschreitet, ist die sofortige Behebung nötig, um die Möglichkeit vorzeitigen Komponentenausfalls zu verhüten.
4. Um die Möglichkeit von Röntgenstrahlung zu begrenzen, ist es wichtig, daß nur die vorgeschriebene Bildröhre verwendet wird.

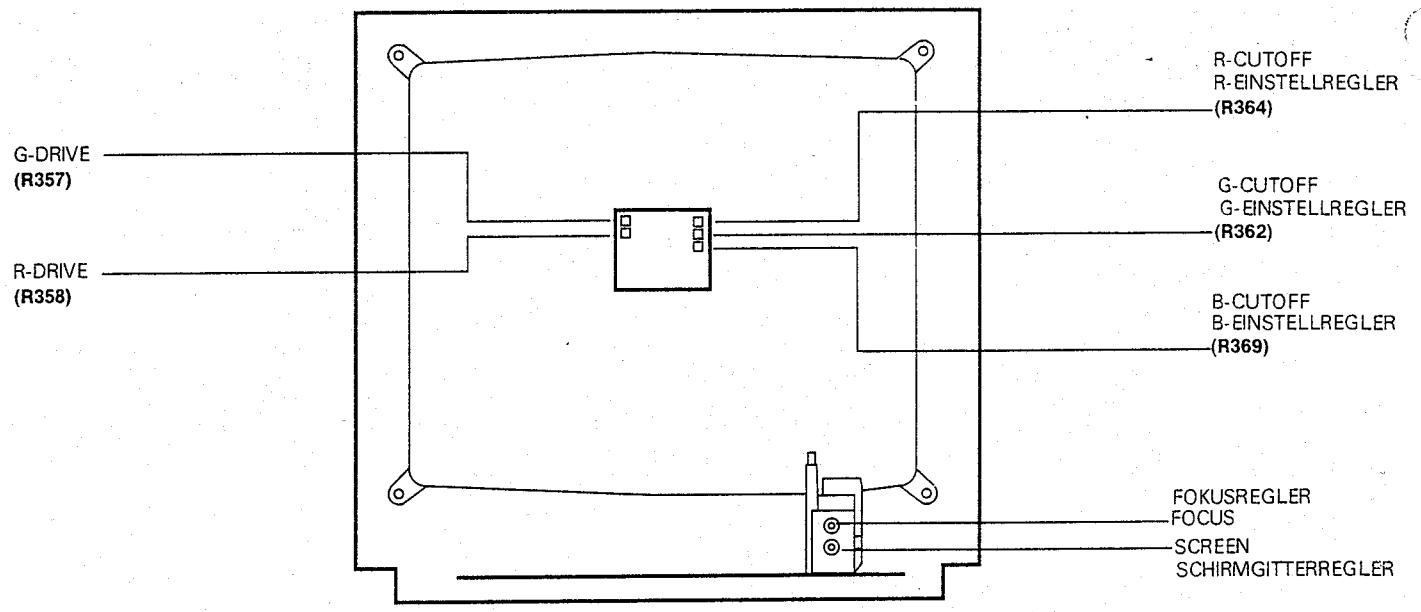
TEST KURZSCHLLUSS-SICHERHEITSSCHALTUNG

Dieser Test muß als letzte Prüfung vor der Rückgabe des Gerätes an den Kunden durchgeührt werden.

1. Bei abgenommener Rückwand ist dem Gerät 230V Nennspannung zuzuführen, und der Geräteschalter einzuschalten.
2. Ein Phillips-Muster empfangen.
3. Gleichspannung von - 40V an TPE7 einspeisen und sicherstellen, daß die Kurzschluß- Sicherheitsschaltung nicht anspricht.
4. Gleichspannung von - 60V an TPE7 einspeisen und sich vergewissern, daß die Kurzschluß- Sicherheitsschaltung jetzt anspricht.

LOCATION OF CONTROLS

KONTROLLANLAGE



E-BOARD TOP VIEW

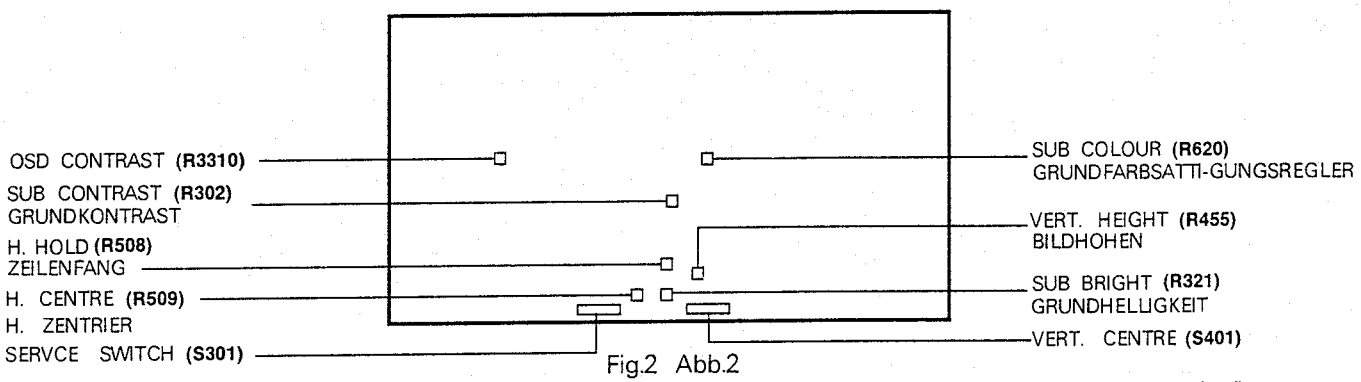


Fig.2 Abb.2

SERVICE HINTS

HOW TO REMOVE THE REAR COVER

1. Remove the 2 fixing screw covers (A) by pressing firmly .
2. Remove the 5 screws (B) as shown in Fig.3.
3. Gently pull back rear cover and remove speaker plug from B-3 connector (at top of B board) rear cover can now be removed.

SERVICE HINWEISE

ENTFERNEN DER GERÄTERÜCKWAND

1. Die 2 Abdeckungen (A) der Rückwandschrauben durch Drücken an der markierten Position entfernen .
2. Die 5 Schrauben (A) entfernen, siehe Abb.3
3. Ziehen Sie vorsichtig die Rückwand nach hinten heraus und lösen Sie den Lautsprecherstecker vom B-3 Anschluß (am oberen Rand der B-Platine). Jetzt kann die Rückwand vollständig entfernt werden.

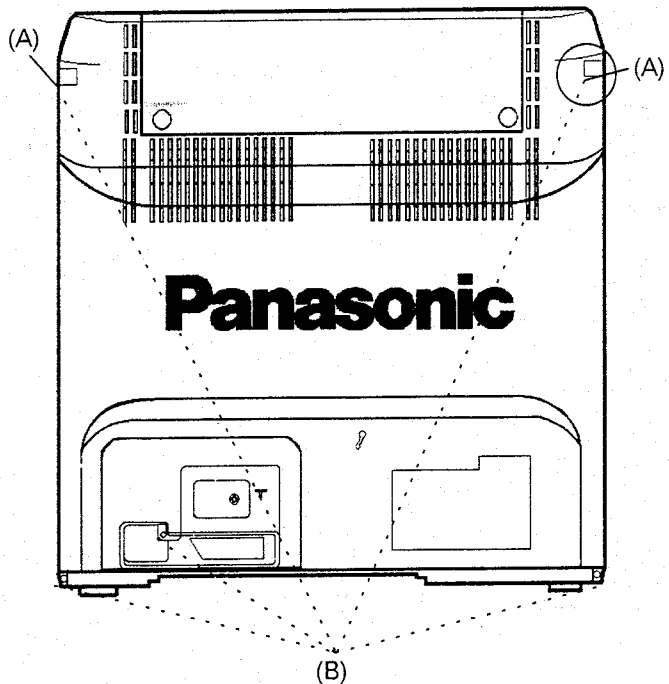


Fig.3 Abb.3

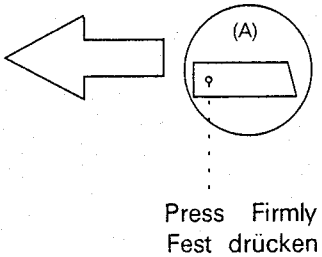


Fig.3 a

HOW TO MOVE CHASSIS INTO SERVICE POSITION

IMPORTANT: This model has a cabinet which is susceptible to scratches and marks. Whenever servicing is carried out a rubber or foam mat should be used to minimise this risk.

1. Remove screw (B) as shown in Fig.4.
2. To service E.pcb place set on it's side (using a protective mat) as shown in Fig.5.
3. Gently pull the chassis out of cabinet to expose most of E.pcb.
4. After servicing ensure all wiring is returned to its original position before returning the receiver to the customer.

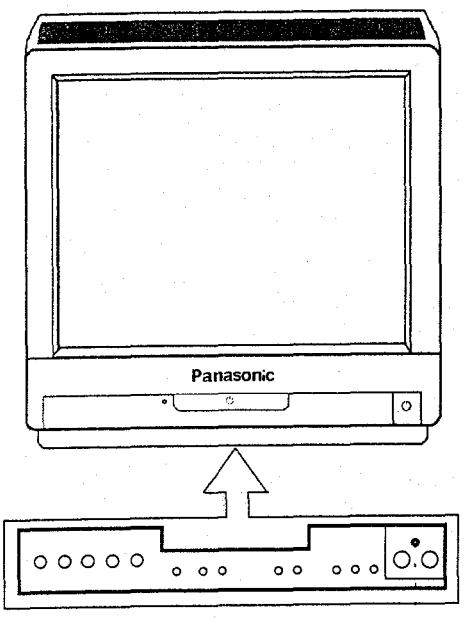


Fig.4 Abb.4 (B)

CHASSIS IN SERVCE-POSITION BRINGEN

Wichtig: Dies Model hat Gehäuse, daß sehr empfindlich gegen Kratzer und Schrammen ist.
Wann immer ein Servicefall eintritt, benutzen Sie bitte eine Gummimatte als Unterlage für das Gehäuse.

1. Die 1 Schraube (B) entfernen (siehe Abb.4)
2. Um Servicearbeiten an der E-Platine durchzuführen, legen Sie das Gerät auf die Seite wie in Abb.5. gezeigt.
3. Ziehen Sie jetzt vorsichtig das Chassis aus dem Gehäuse, so daß der größte Teil der E-Platine freiliegt.
4. Nach Beendigung der Reparatur bringen Sie die Platine wieder in die Original position.

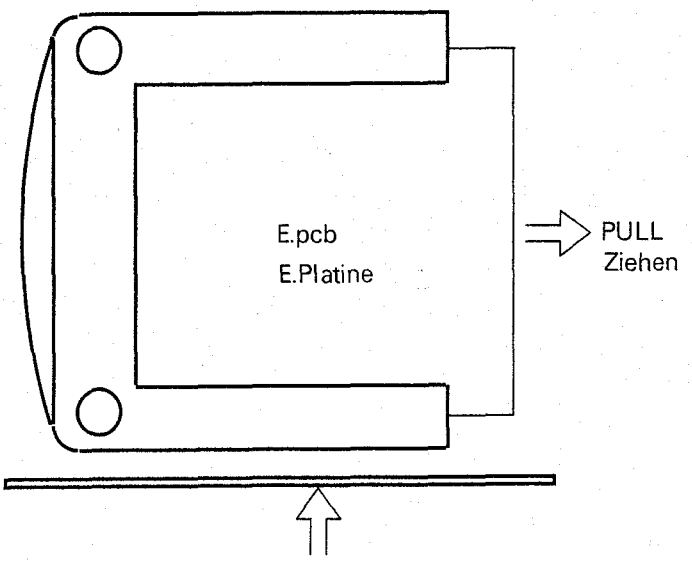


Fig.5 Abb.5

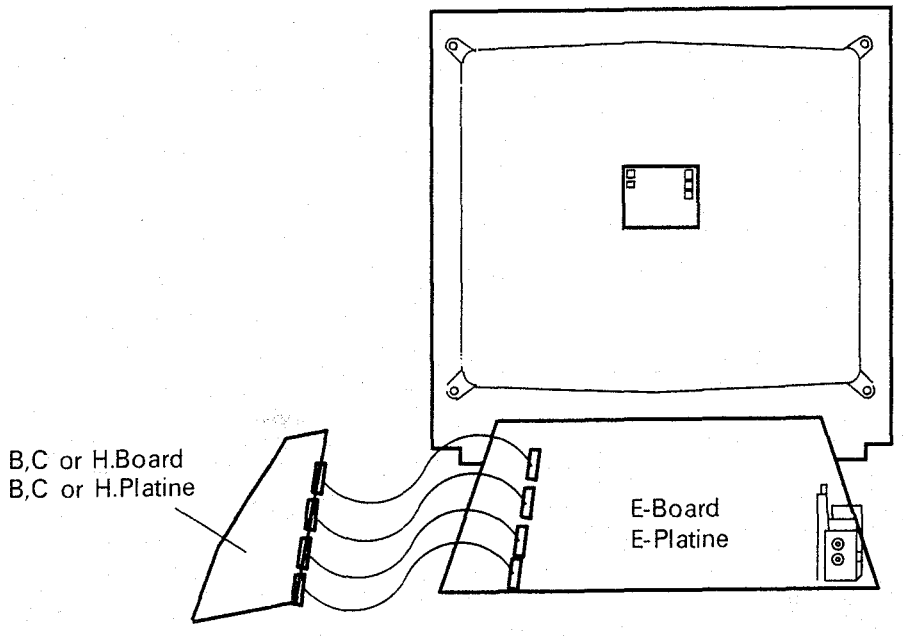


Fig.6 Abb.6

SERVICE POSITION FOR B,C and H-BOARDS

1. Remove the appropriate board to be serviced from the E-Board.
2. Connect the extension lead wires between the board and E-Board and then position away from the main chassis and ensure they are not touching as in Fig.6
3. After servicing ensure all wiring is returned to its original position before returning the receiver to the customer.

NOTE : An extension lead wire service kit, comprising of (5) leads can be used to service any of the above boards.
Part number of this kit is TZS1EM001

Servicestellung Für B-, C-, und H-platine

1. Lösen Sie zu reparierende Platine von der E-Platine
2. Dann verwenden Sie die Verlängerungskabel, um die Platine wieder mit der E-platine zu verbinden. Achten Sie auf genügenden Abstand, damit es zu keinem Kurzschluß kommt.
3. Nach Beendigung der Reparatur bringen Sie die Platine wieder in die Original position.

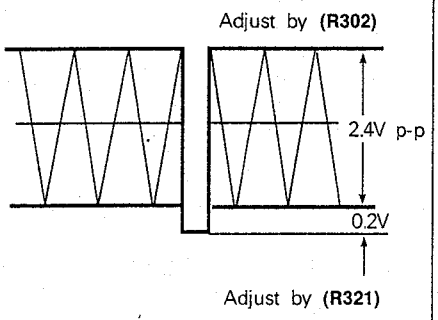
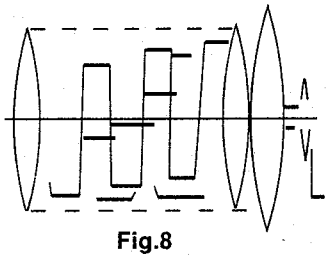
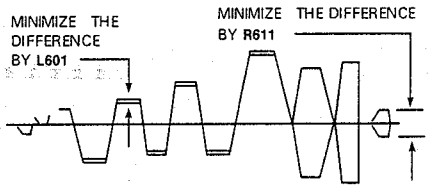
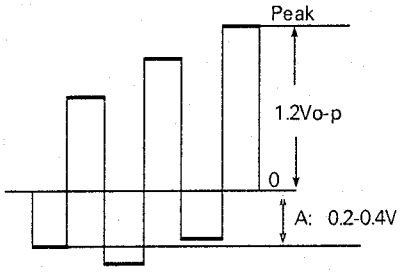
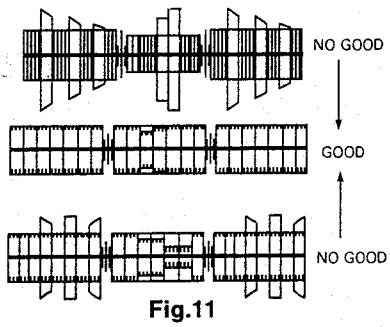
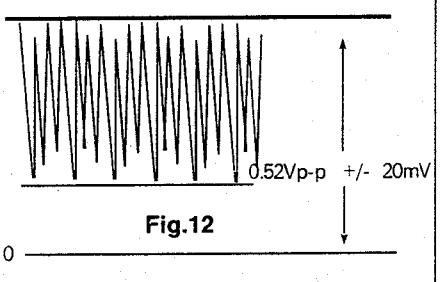
Bemerkung: Ein Verlängerungskabel-Set, bestehend aus (5) Kabeln kann zum Reparieren jeder der obengenannten Platinen benutzt werden, Bestell-Nr. des Kabel-kits ist TZS1EM001

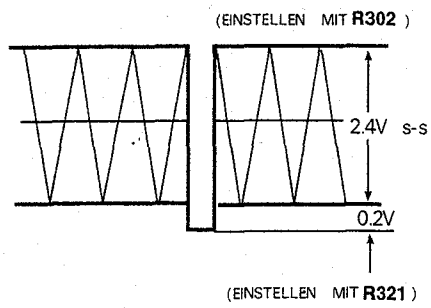
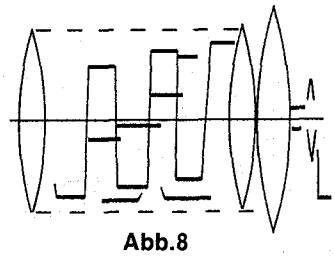
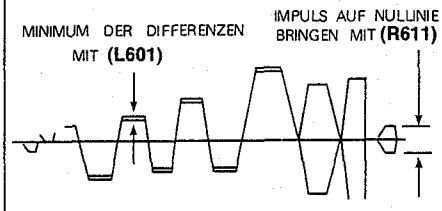
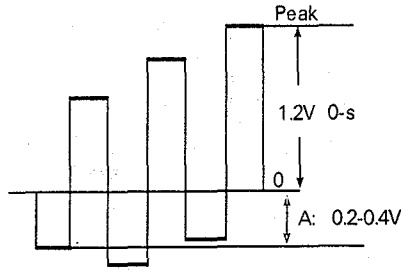
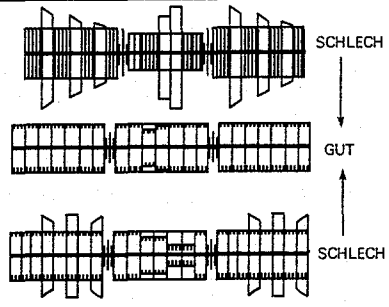
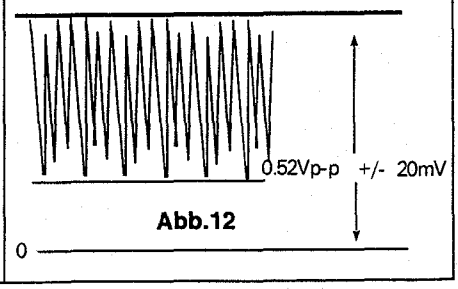
ADJUSTMENTS

ITEM/PREPARATION	ADJUSTMENT PROCEDURE
B VOLTAGE 1. Operate the TV set. 2. Set controls: Bright . . . . . minimum Contrast . . . . . minimum (Zero beam current)	1. Confirm the indicated test points for the specified voltage. **TPE1:** 123.5 +/- 1.5V **TPE5:** 12.0 +/- 1.0V **TPE2:** 5.0 +/- 0.3V **TPE10:** 190.0 +/- 10.0V **TPE3:** 20.0 +/- 1.0V **TPE28:** 26.5 +/- 1.0V **TPE4:** 15.0 +/- 1.0V **TPE66:** 8.2 +/- 0.5V
AFC 1. Operate the TV set. 2. Supply 38.9MHz continuous wave from an oscillator to **TPB20** (0.5 V p-p, 75 ohm terminated). 3. Connect a DC voltmeter to **TPB25.**	1. Adjust **L106** so that the voltage at **TPB25** becomes 4.5V +/- 0.5V. 2. Change the frequency and confirm the voltage as shown below. + 100 kHz: less than 2.0V - 100 kHz: more than 6.0V
RF AGC 1. Receive a Philips pattern. 2. Set the input level to 60 dB +/- 2 dB (75 ohm open). 3. Connect an oscilloscope to **TPB24** with DC mode.	1. Turn RF AGC control **R128** fully clockwise. 2. Slowly turn **R128** counterclockwise to set it at the point before the voltage at **TPB24** drops. **NOTE:** In this case , gain range of the oscilloscope is 1 V/div, and set **R128** to a point where this voltage drops by 0.2 V.
HIGH VOLTAGE 1. Receive a crosshatch pattern. 2. Set controls: Bright. . . . . minimum Contrast. . . . . minimum (Zero beam current)	1. Connect a DC voltmeter to **TPE1** and confirm the voltage is 123.5V +/- 1.5V. 2. Connect a high-voltage meter (Electrostatic type) to the anode of the picture tube. 3. Confirm that the high voltage is within a range of 26.5KV (+0.7 or -1.5)

JUSTIERUNGEN

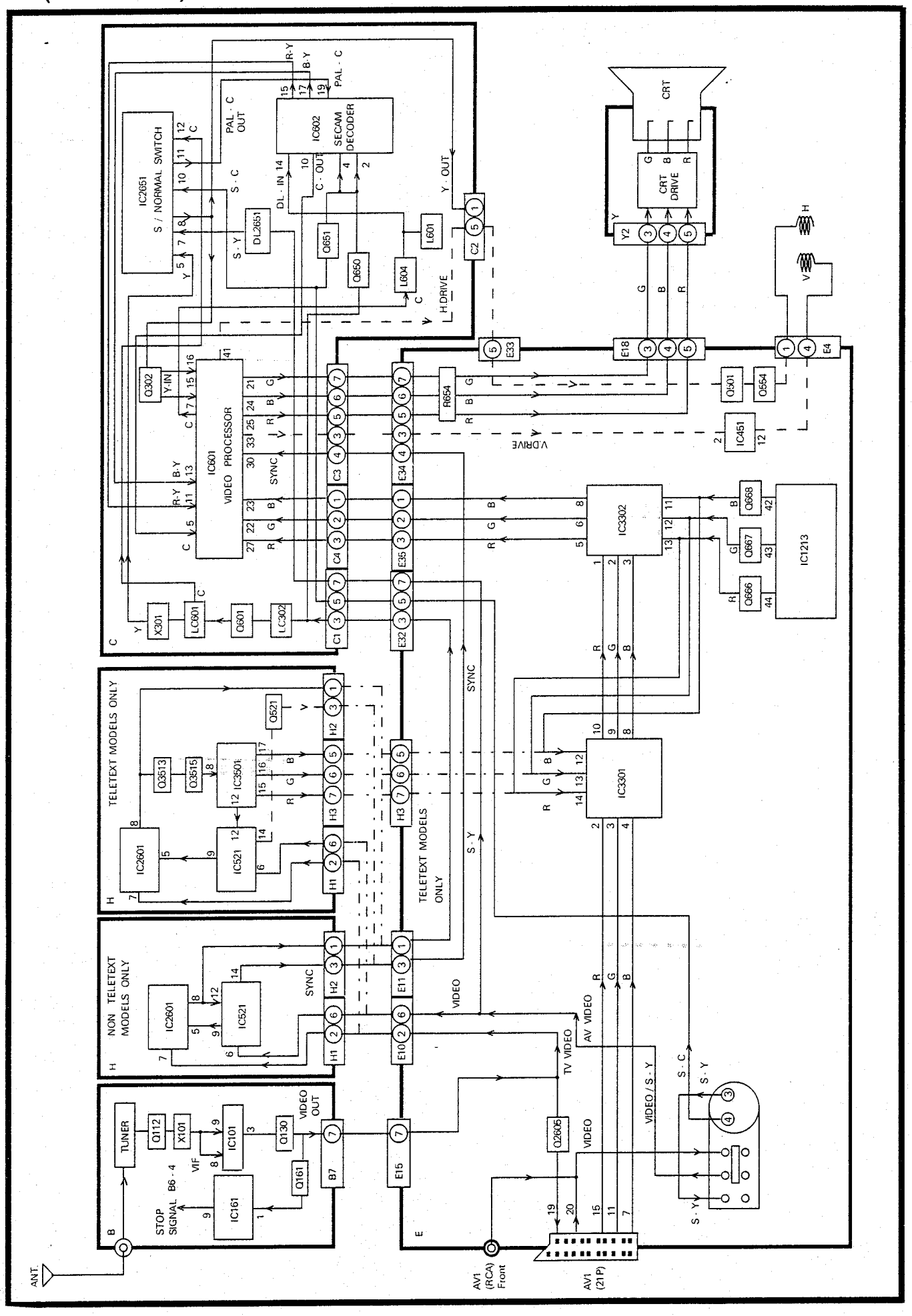
ABGLEICHPUNKTE UND VORBEREITUNG	JUSTIERUNG
VERSORGUNGSSPANNUNG B 1. TV einschalten. 2. Die Regler wie folgt einstellen: Helligkeit . . . . . minimum Grundhelligkeitsregler . minimum Kontrast . . . . . minimum	1. Die Messungen an den Testpunkten sollen folgende Betriebsspannungen ergeben. **TPE1:** 123.5 +/- 1.5V **TPE5:** 12.0 +/- 1.0 V **TPE2:** 5.0 +/- 0.3 V **TPE10:** 190.0 +/- 10 V **TPE3:** 20.0 +/- 1.0V **TPE28:** 26.5 +/- 1.0V **TPE4:** 15.0 +/- 1.0V **TPE66:** 8.2 +/- 0.5 V
AFC 1. TV einschalten. 2. Kanal im UHF-Bereich wählen. 3. Meßsender auf 38.9 MHz einstellen und an den Tuner-Testpunkt anschließen. 4. DVM an **TPB25** anschließen.	1. Spule **L106** so abgleichen, daß die Gleichspannung am **TPE25** 4.5V +/- 0.5V beträgt. 2. Die Frequenz ändern, und die Spannung wie folgt kontrollieren: + 100 kHz: Kleiner als 2.0 V - 100 kHz: Größer als 6.0 V
RF AGC 1. Empfang eines Farbbalken - Testbildes. 2. Das Eingangssignal soll mit 60dB +/- 2dB (75 Ω eingespeist werden). 3. Oszilloskop an **TPB24** in DC-Funktion anklemmen.	1. Der Regler RF AGC **R128** ist auf Rechtsanschlag zu stellen. 2. Den Regler **R128** so einstellen, daß er kurz vor dem Punkt steht, an dem der Messwert an **TPB24** absinkt.
HOCHSPANNUNG. 1. TV einschalten. 2. Die regler wie folgt einstellen: Helligkeit . . . . . minimum Grundhelligkeitsregler . minimum Kontrast . . . . . minimum	1. Die Hochspannung darf bei 26.5kV eine Toleranz von +0.7 / - 1.5kV. **Anmerkung:** Falls die Hochspannung außerhalb der Toleranz liegt, bitte bei minimaler Helligkeit, Kontrast und Farbsättigung prüfen, ob sie innerhalb der Toleranz ist.

ITEM/PREPARATION	ADJUSTMENT PROCEDURE	WAVEFORM
SUB CONTRAST 1. Receive the Philips pattern. (Input level : 75 dB.) 2. Connect an oscilloscope to **TPE15.** 3. Set controls: Bright ..... minimum Contrast ..... maximum Colour ..... minimum Sub Colour ..... minimum 4. Earth **TPE7.**	1. Adjust Sub-Bright **(R321)** to set the black level to 0.2 V 2. Adjust the Sub-Contrast **(R302)** to set the drive voltage to 2.4 V p-p. 3. Remove link from **TPE7.**	 **Fig.7**
PAL APC 1. Receive the Philips pattern. 2. Set controls: Contrast ..... maximum Colour ..... maximum 3. Connect jumpers between **TPC8** and **TPC20** . And between **TPC11** and **TPC9** 4. Connect oscilloscope to **C3 PIN6** through 100 Ω resistor.	1. Adjust APC trimmer **(C617)** to obtain waveform at **C3 PIN6** as shown in Fig.8 (stationary waveform) 2. Remove links and confirm colour bars are stationery.	 **Fig.8**
PAL DELAY LINE 1. Receive the Philips pattern. 2. Connect oscilloscope to **C3 PIN6** through 100 Ω resistor. 3. Set controls: Contrast ..... maximum Colour ..... maximum	1. Adjust DL Adj **(R611)** and DL Matching Trans **(L601)** to obtain waveform at **C3 PIN6** as shown in Fig 9	 **Fig.9**
SUB COLOUR 1. Receive a Philips pattern. 2. Set controls: Bright ..... minimum Contrast ..... maximum Sub Bright ..... 0.2 - 0.4V Colour ..... centre 3. Connect an oscilloscope to **TPE15** through a 10KΩ resistor.	1. Connect a short jumper between **TPE6** and earth. 2. Adjust sub colour **(R620).** For 1.2 Vo-p +/- 0.1 V at **TPE15** as shown in Fig 10. 3. Remove the short jumper.	 **Fig.10**
BELL FILTER 1. Receive a Philips pattern. (SECAM) 2. Connect an oscilloscope to **TPC3** through a 10KΩ resistor. (10 : 1 probe)	1. Adjust **L653** to obtain the waveform as shown in Fig 11.	 **Fig.11**
TELETEXT CONTRAST 1. Receive a teletext signal. 2. Connect an oscilloscope to **H3 pin 6.**	1. Adjust **(R3514)** to obtain the waveform as shown in Fig 12.	 **Fig.12**

ABGLEICHPUNKTE UND VORBEREITUNG	JUSTIERUNG	SIGNALFORM
GRUNDKONTRAST 1. Empfang eines Farbbalken - Testbildes. 2. Oszilloskop an Testpunkt **TPE15.** 3. Die Regler wie folgt einstellen : Helligkeit . . . . . minimum Kontrast . . . . . maximum Farbsättigung . . . . . minimum (R620) SUB COLOUR . . . .minimum 4. **TPE7** auf Masse Klemmen	1. Grundhelligkeit **R321** auf 0.2V einstellen. 2. Grundkontrast **R302** auf 2.4 Vs-s einstellen.	 **Abb.7**
PAL APC 1. Empfang eines PAL -Farbbalken-Testbildes. 2. Die Regler wie folgt einstellen : Kontrast . . . . . maximum Farbsättigung . . . . . maximum 3. **TPC8** mit **TPC20** , und **TPC11** mit **TPC9** verbinden. 4. Ein Oszilloskop an über 100 Ω - widerstand an **C3 PIN 6** anshließen.	1. Trimmer **C617** auf minimale Bewegung in den Farbbalken abgleichen (siehe Abb. 8) 2. Brücken entfernen und korrekte Farbbalkenfolge überprüfen.	 **Abb.8**
PAL-VERZÖGERUNGSLEITUNG 1. Ein Phillips-Muster empfungen 2. Ein Oszilloskop an über 100 Ω - widerstand an **C3 PIN 6** anshließen. 3. Die Regler wie folgt einstellen : Kontrast . . . . . maximum Farbsättigung . . . . . maximum	1. Einstellungen mit den Reglern DL Adj. **R611** und der Spule DL Matching Trans. **L601** so vornehmen, daß die Signalform, an Testpunkt **C3 PIN 6** erreicht wird, wie Abb. 9 dargestellt **C3 PIN 6** .	 **Abb.9**
GRUNDFARBSÄTTIGUNG Grundeinstellung Farbsättigung(SUB COLOUR) 1. Farbbalkentestbild empfangen. 2. Kontrast . . . . . .maximum Helligkeit. . . . . minimum Farbsättigung . . . . . .maximum Grundhelligkeit. . . . . .minimum 3. Oszillograph an **TPE15** anschliesen.	1. **TPE6** auf Masse Klemmen 2. An **TPE15** mit **R620** (SUB-COL.) 1.2V 0-s +/- 0.1 V einstellen. 3. Die Kurzschlussbrücke entfernen	 **Abb.10**
GLOCKENFILTER / ZEILENDISKRIMINATOR 1. Ein Philip-Muster empfangen. (SECAM) 2. Ein Oszilloskop an über 10KΩ - widerstand an **TPC3** anshließen. (10 : 1 probe)	1. Mit **L653** die Signalform nach Abb. 11 einstellen.	 **Abb.11**
VIDEOTEXT-KONTRAST 1. Videotext signal empfangen. 2. Oszilloskop an **H3 pin 6.**	1. Mit **R3514** die signalform nach Abb.12 einstellen.	 **Abb.12**

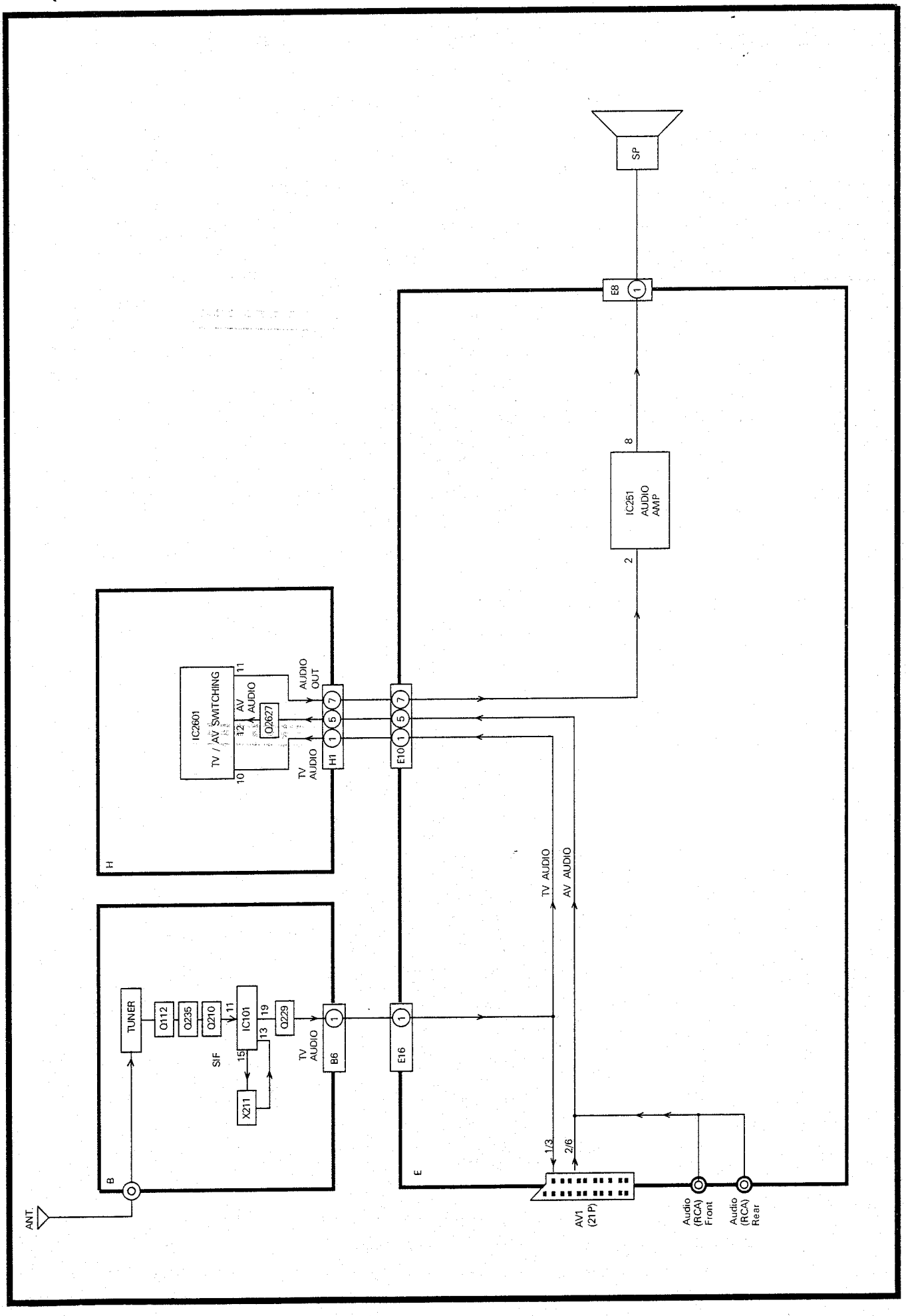
BLOCK DIAGRAM (VIDEO LINE)

BLOCKSCHALTBILD (VIDEO-SIGNALWEG)



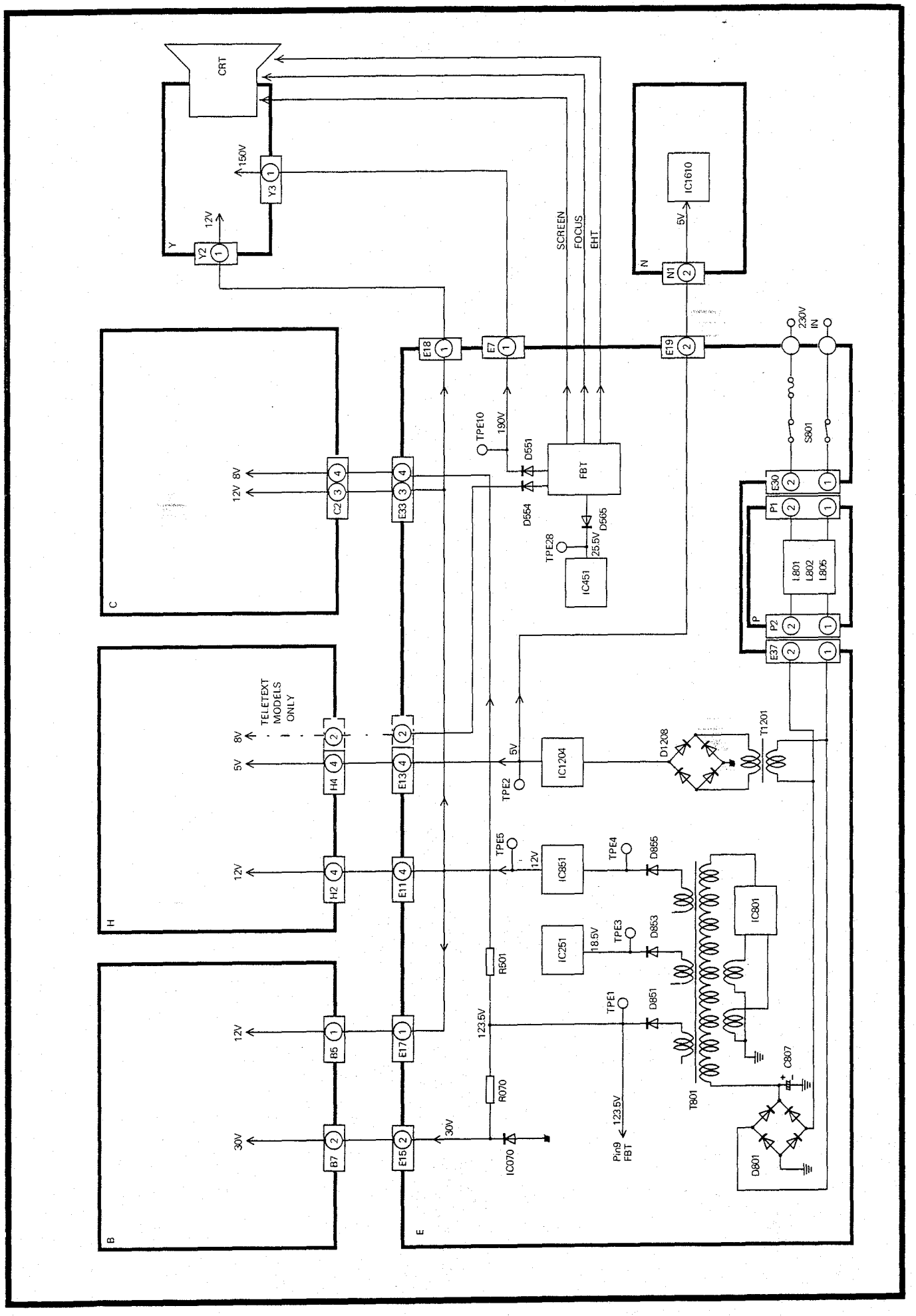
BLOCK DIAGRAM (AUDIO LINE)

BLOCKSCHALTBILD (AUDIO-SIGNALWEG)



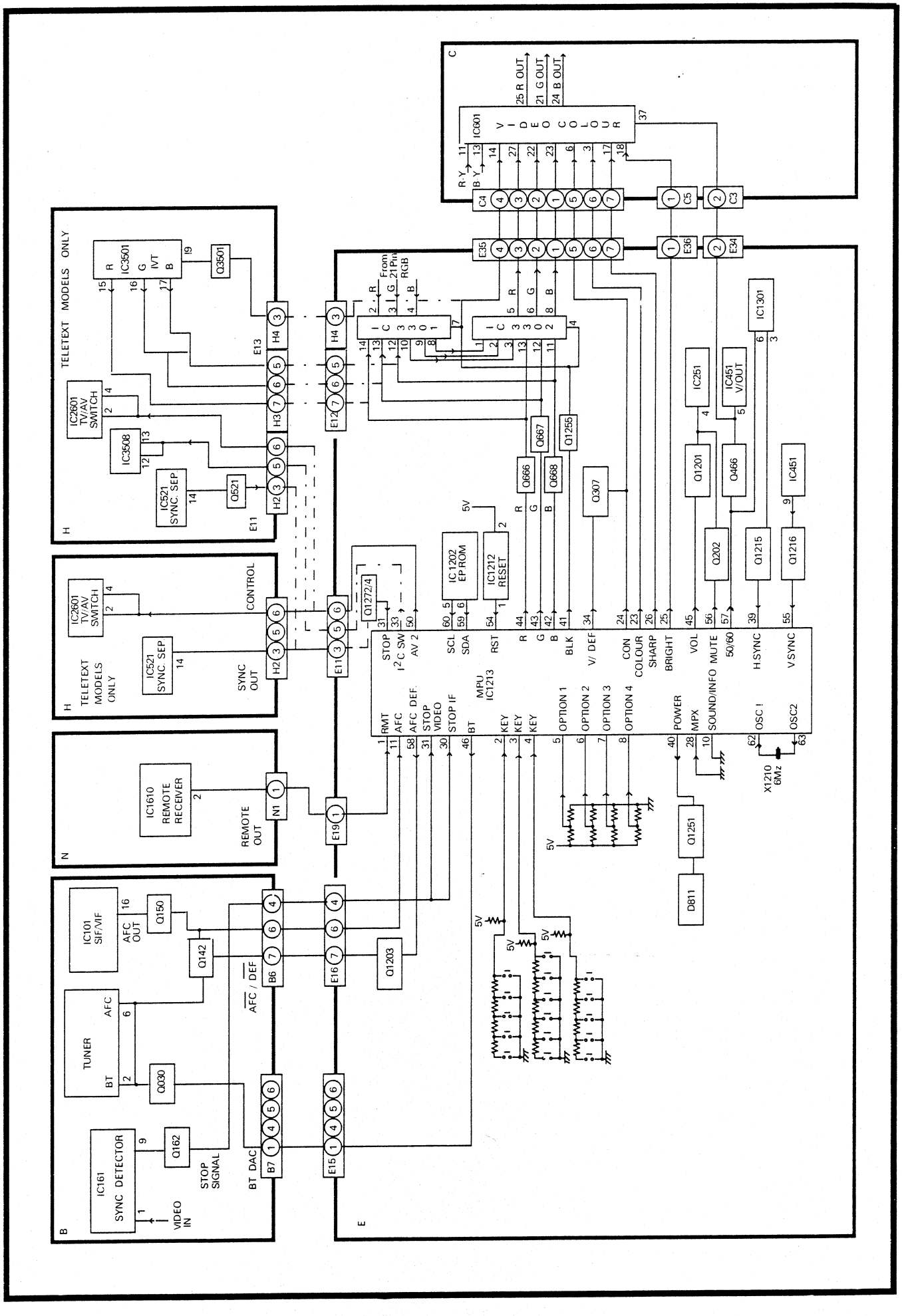
BLOCK DIAGRAM (POWER LINE)

BLOCKSCHALTBILD (SPANNUNGSVERSORGUNGSWEG)



BLOCK DIAGRAM (MPU/CONTROL LINE)

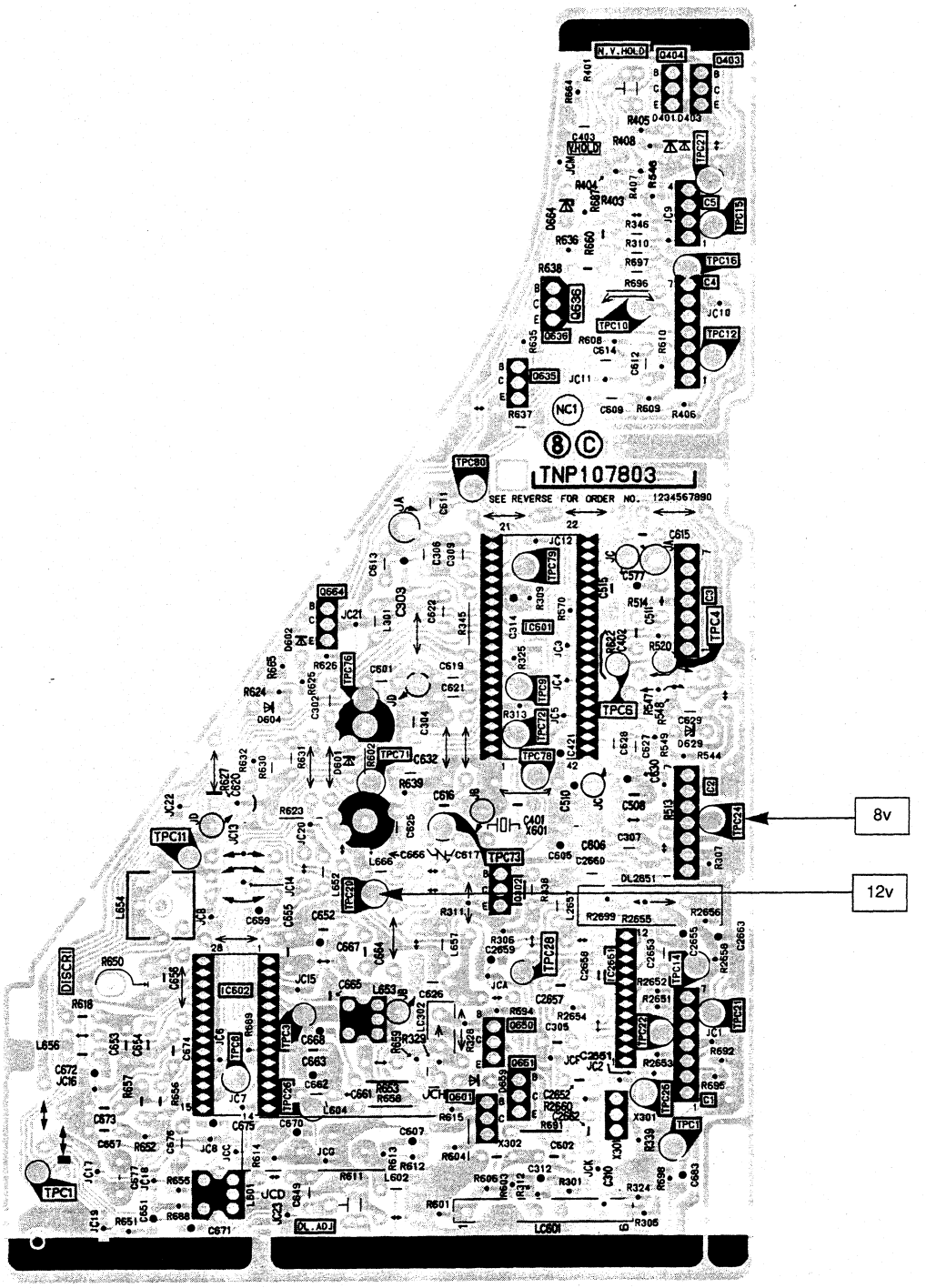
BLOCKSCHALTBILD (MPU/KONTROLL SIGNALWEG)



CONDUCTOR VIEWS
ANSICHT DER LEITERBAHNEN

C-BOARD TNP107803AJ PLATINE C TNP107803AJ

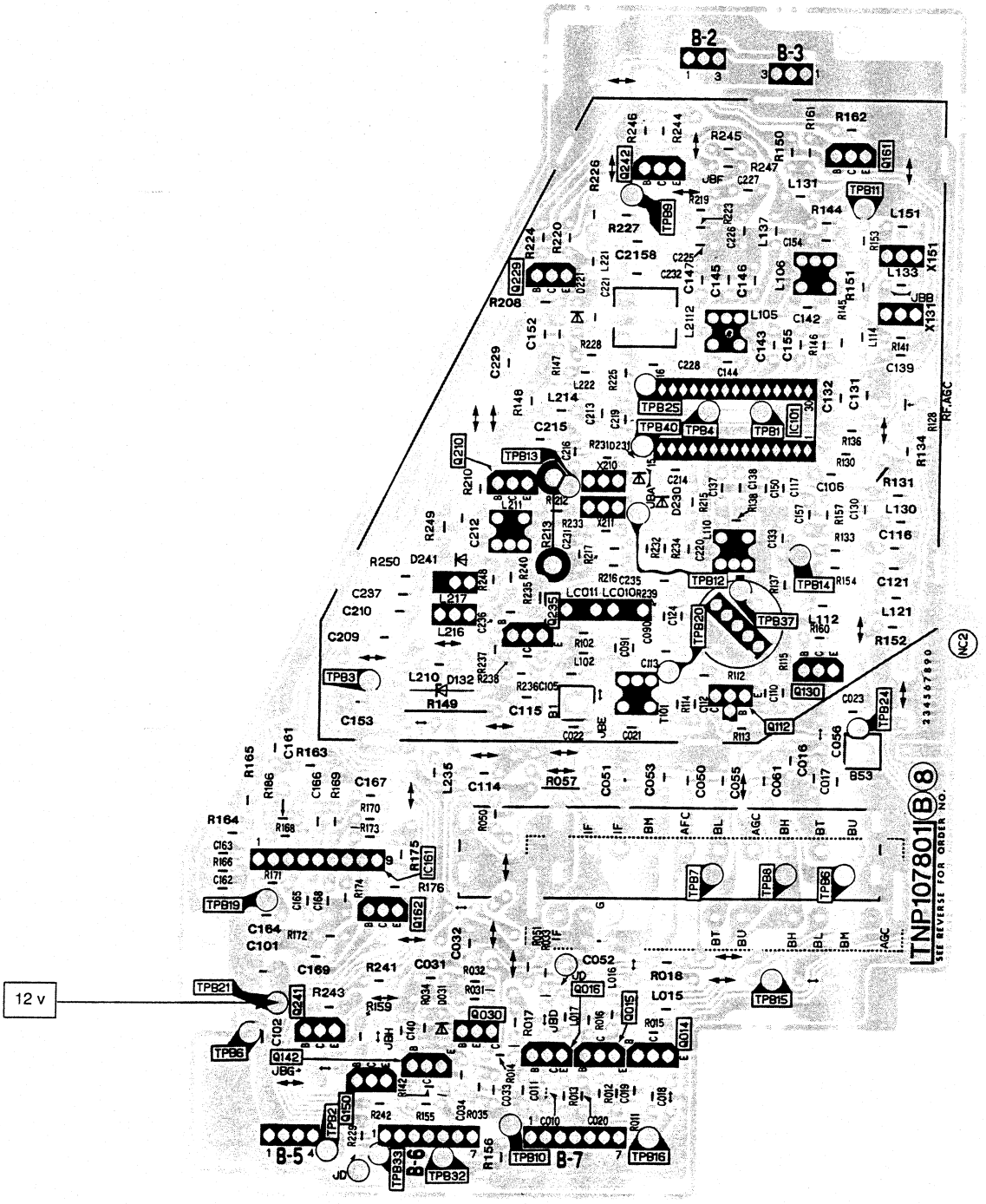
I.C.	IC602 IC601 IC2651
TRANSISTOR	Q650 Q302 Q636 Q404 Q601 Q651 Q403 Q635
DIODE	D601 D401 D403
TEST POINT	TPC9 TPC15 TPC78 TPC24 TPC71 TPC80 TPC16 TPC11 TPC73 TPC79 TPC10 TPC12 TPC3 TPC76 TPC14 TPC72 TPC22 TPC21 TPC8 TPC26



B-BOARD TNP107801AE

PLATINE B TNP107801AE

I.C.	IC161 IC101
TRANSISTOR	Q150 Q030 Q229 Q162 Q210 Q142 Q235 Q112 Q130 Q161
DIODE	D132 D031
TEST POINT	TPB6 TPB10 TPB25 TPB11 TPB2 TPB9 TPB4 TPB1 TPB19 TPB13 TPB14 TPB24 TPB21 TPB33 TPB15 TPB16 TPB3 TPB12 TPB37

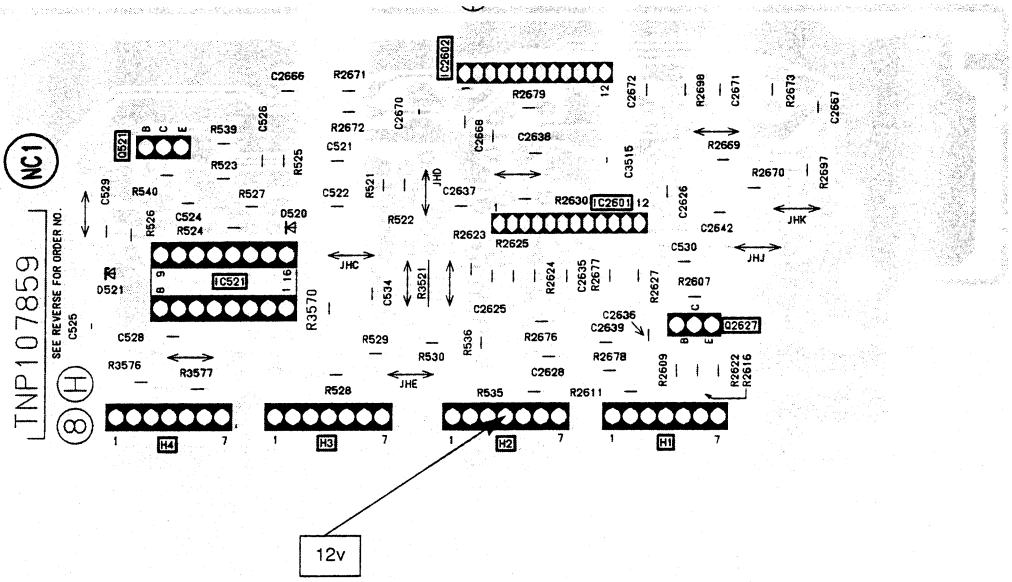


TC-21M1RD

H-BOARD TNP107859AB

PLATINE H TNP107859AB

I.C.	IC521 IC2601
TRANSISTOR	Q521 Q2627
DIODE	D521 D520
TEST POINT	

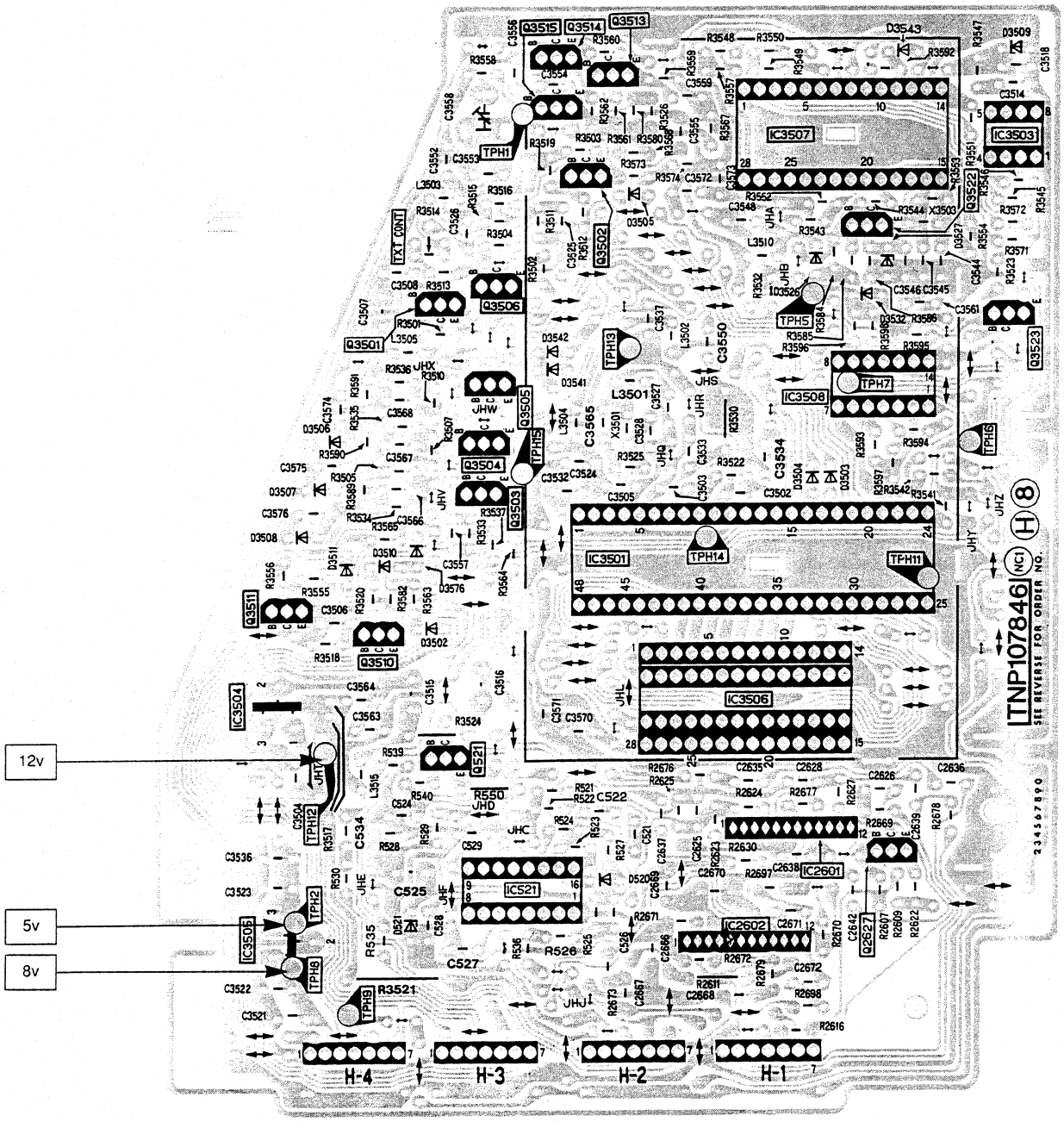


TX-21M1TD

H-BOARD TNP107846AD

PLATINE H TNP107846AD

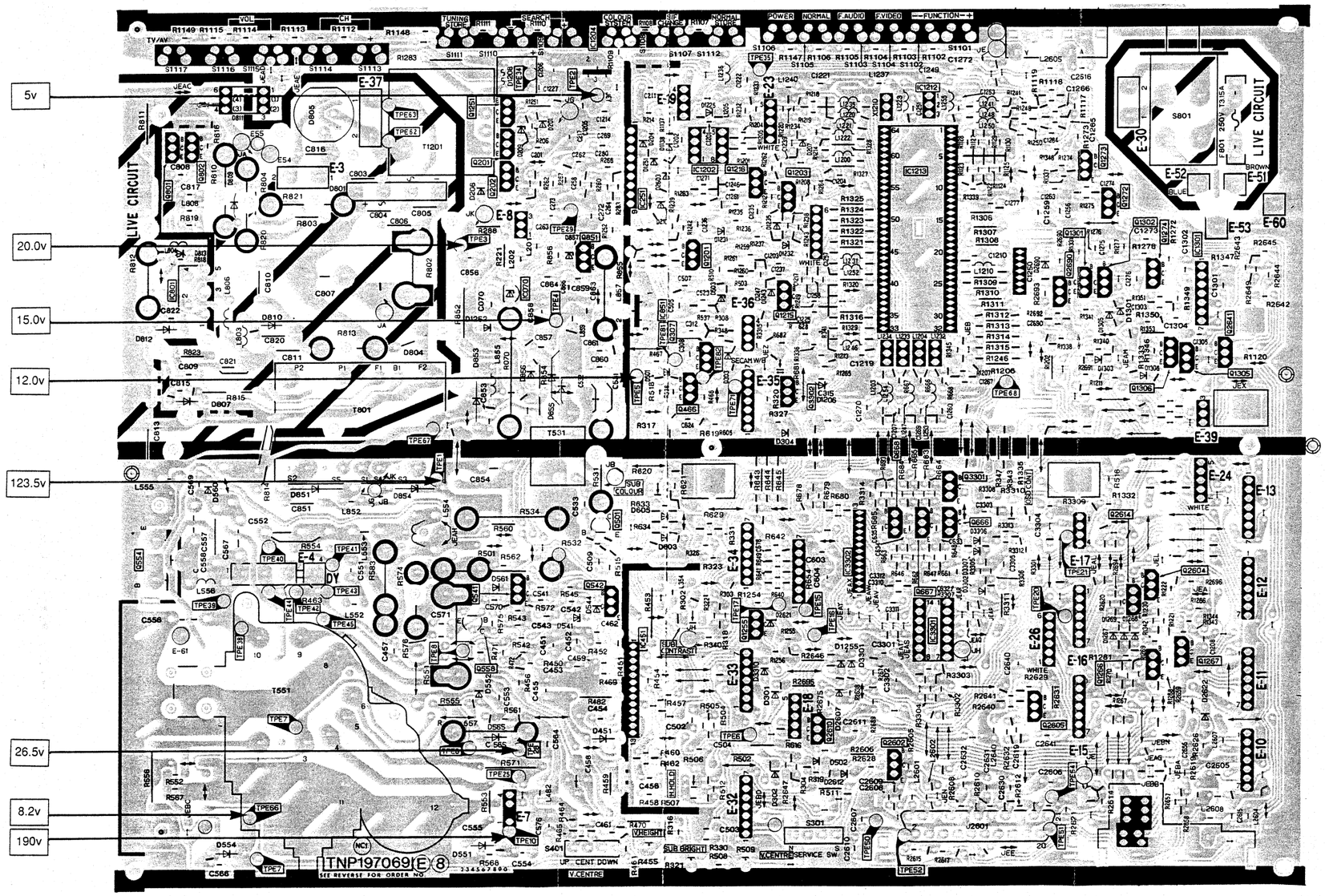
I.C.	IC3505 IC521 IC3501 IC3508 IC3506 IC2601 IC3507
TRANSISTOR	Q3511 Q3501 Q3506 Q3514 Q3513 Q3522 Q3510 Q521 Q3515 Q3502 Q2627 Q3523
DIODE	D521 D3510 D3502 D3541 D3505 D3526 D3543 D3511 D521 D3542 D3503 D3527 D3576 D520 D3504
TEST POINT	TPH1 TPH2 TPH15 TPH13 TPH7 TPH6 TPH12 TPH14 TPH11 TPH8 TPH9



E-BOARD TNP197069

PLATINE E TNP197069

I.C.	IC801 IC070 IC251 IC451 IC1204 IC851 IC1212 IC3302 IC1213 IC3301 IC1202 IC1301
TRANSISTOR	Q801 Q802 Q554 Q1251 Q201 Q541 Q558 Q202 Q501 Q851 Q542 Q1201 Q307 Q466 Q1216 Q1215 Q1255 Q1203 Q2610 Q3302 Q668 Q667 Q3301 Q2602 Q666 Q2605 Q1273 Q2614 Q2690 Q1272 Q2604 Q1274
DIODE	D811 D805 D812 D809 D807 D560 D801 D810 D851 D804 D854 D206 D1208 D561 D201 D857 D1252 D209 D853 D565 D552 D551 D856 D855 D544 D541 D451 D2603 D204 D210 D501 D605 D603 D1225 D303 D1243 D1232 D2621 D207 D304 D301 D302 D1255 D3301 D2607 D2612 D3307 D3306 D3302 D2690 D1301 D1305 D1306
TEST POINT	TPE40 TPE42 TPE39 TPE44 TPE41 TPE43 TPE38 TPE45 TPE66 TPE7 TPE63 TPE62 TPE3 TPE67 TPE1 TPE8 TPE34 TPE28 TPE25 TPE10 TPE2 TPE29 TPE5 TPE35 TPE71 TPE17 TPE16 TPE15 TPE50 TPE52 TPE68 TPE54 TPE20 TPE51



SCHEMATIC DIAGRAM FOR MODEL TX-21M1TD
(Z4 - Chassis) TC-21M1RD

ZEICHENERKLÄRUNG FÜR MODELL TX-21M1TD
(Z4 - Chassis) TC-21M1RD

Important Safety Notice

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Wichtiger Sicherheitsinweis

Teile,die mit einen Hinweis ⚠ gekennzeichnet sind, sind wichtig für die Sicherheit. Sollte ein Auswechseln erforderlich sein, sind unbedingt Originalteile einzusetzen.

NOTES:

1. RESISTOR
   All resistors are carbon 1/4W, unless marked as follows:
   Unit of resistance is the OHM (K =1,000, M = 1,000,000).

   ○ : Nonflammable ⊠ Metal Oxide
   △ : Solid ◎ : Metal Film
   ⊠ : Wire Wound ⊗ : Fuse
2. CAPACITORS
   All capacitors are ceramic 50V, unless marked as follows:
   Unit of capacitance is uF, unless otherwise stated.

   ⊗ : Temperature Compensation
   Ⓜ : Polyester
   ⓜ : Metalized Polyester
   ⊠ : Polypropylene
   + - : Electrolytic
   NP : Bipolar
   Ⓣ : Dipped Tantalum
   Ⓩ : Z-Type
3. COIL
   Unit of inductance is uH, unless otherwise stated.
4. Components marked ' L' on the schematic diagram shows lead - less parts.
5. TEST POINT
   ○ : Test Point position.
6. EARTH SYMBOL
   ⏚ : Chassis Earth (Cold) ⊥ : Line Earth (Hot)
7. VOLTAGE MEASUREMENT
   Voltage is measured by a DC voltmeter.
   Conditions of the measurement are the following:
   Power Source .....230V AC, 50Hz
   Receiving signal ..... Colour Bar signal (RF)
   All the other customer's controls..... Maximum
8. This schematic diagram is the latest at the time of printing and subject to change without notice.

REMARKS:

1. The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions. All circuits,except the Power Circuit, are cold.

PRECAUTIONS

a. Do not touch the hot part or the hot and cold parts at the same time as you are liable to a shock hazard.
b. Do not short-circuit the hot and cold circuits as electrical components may be damaged.
c. Do not connect an instrument, such as an oscilliscope, to the hot and cold circuits simultaneously, as this may cause fuse failure. Connect the earth of instruments to the earth connection of the circuit being measured.
d. Make sure to disconnect the power plug before removing the chassis.

2. The following resistors are fusable safety components,they are rated at the following value.

Ref:	Part No:	Value:
R482	TSF19631	630mA
R1283	TSF19631	630mA

ANMERKUNG

1. WIDERSTÄNDE
   Alle 1/4 Watt Widerstände sind Kohlewiderstände, Abweichungen sind wie folgt gekennzeichnet:
   Die Maßeinheit ist OHM (Ω) (K =1,000 M =1,000,000).

   ○ : nicht brennbar ⊠ : Metal Oxyd
   △ : Lastwiderstand ◎ : Metall Film
   ⊠ : Draht ⊗ : Sicherung
2. KONDENSATOREN
   Alle Kondensatoren sind Keramikausfürungen.
   Spannungsfestigkeit 50 V, Abweichungen sind wie folgt gekennzeichnet.
   Die Maßeinheit ist uF, wenne keine anderen Bezeichnungen gennant sind.

   ⊗ : Temperatur Kompensation
   Ⓜ : Polyester
   ⓜ : Metallisches Polyester
   ⊠ : Polypropylen
   + - : Elektrolyt
   NP : Bipolar
   Ⓣ : Tantal
   Ⓩ : Z-Typ
3. SPULEN
   Die Maßeinheit ist uH, Abweichungen sind gekennzeichnet.
4. Mit 'L' gekennzeichnete Teile sind ohne Anschlußdrähte.
5. TESTPUNKTE
   ○ : Kennzeichnung der Testpunktposition.
6. MASSESYMBOL
   ⏚ : Erdung am Chassis (kalt) ⊥ : Erdung an Masse-Leitur
7. SPANNUNGSMESSUNG
   Spannungsmessungen sind mit einem DC-Voltmeter durchzuführen.
   Die Meßbedingungen sind folgende:
   Netzspannung ..... 230 V / 50 Hz
   Wiedergabe Signal ..... Farbbalken - Testbild
   Alle übrigen Einstellungen für Benutzer ..... Sollangaben
8. Änderungen im Laufe der Fertigung sind möglich.

BEMERKUNGEN:

Das Schaltnetzteil enthält Bereiche, die direkt mit dem Netz-verbunden sind. Diese Bereiche sind im Schalplan mit "HOT" gekennzeichnet. Alle anderen Schaltungen sind mit "COLD" gekennzeichnet und Haben keine direkte Verbindung mit dem Netz.

Für den netzverbundenen Bereich ("HOT") sind folgende Vorsichtsmassregeln zu beachten :

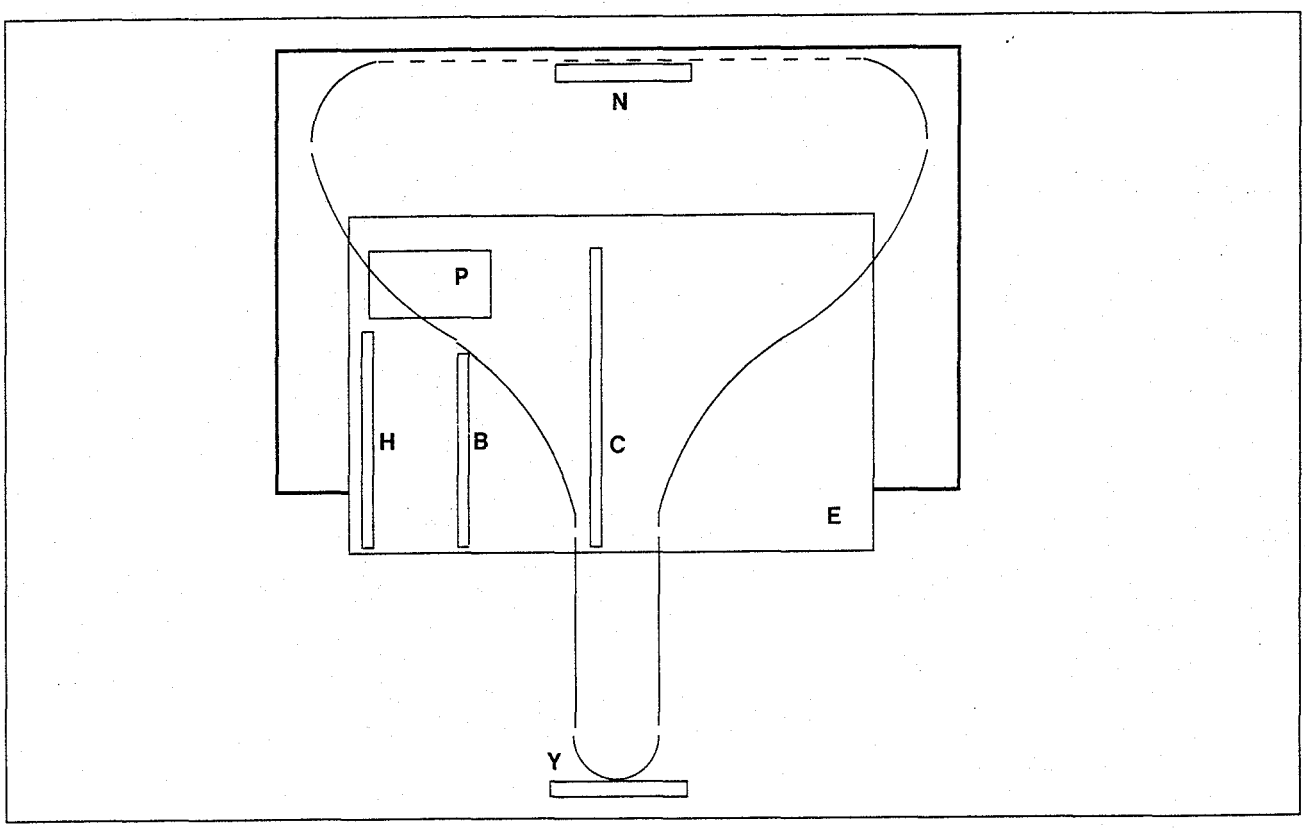
a. Weder die Leitungen im heißen noch Leitungen im heißen und im kalten Bereich gleichzeitig berühren. Es besteht die Gefahr eines elektrischen Schlages.
b. Keinesfalls die Leitungen im heißen Bereich mit denen im kalten Bereich verbinden oder kurzschliessen. Dies kann zur Zerstörung von Bauteilen oder Sicherungen führen. Außerdem ist die elektrische Betriebssicherhe des Gerätes nicht mehr gegeben.
c. Kein Messinstrumente gleichzeitig an Leitungen im heissen und kalten Bereich anschliessen. Sicherungen könnten zerstört werden. Die Erde des Messinstrumentes immer mit der des zu prüfenden Schaltkreises verbinden.
d. Vor Ausbau des Chassis, Stecker aus der Netzsteckdose ziehen.

2. Die nachfolgenden Widerstände sind Sicherungswiderstände. Im Falle eines Defektes dürfen nur Originalersatzteile verwendet werden.

Pos.Nr:	Eratzteil-NR:	Wert:
R482	TSF19631	630mA
R1283	TSF19631	630mA

LOCATION OF P.C.B.

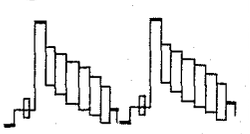
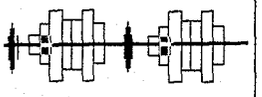
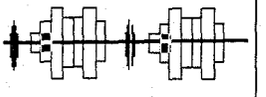
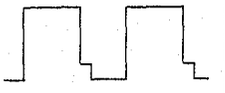
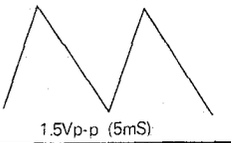
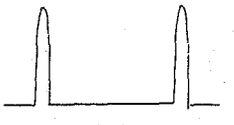
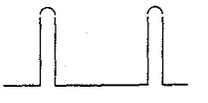
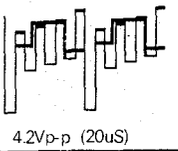
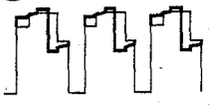
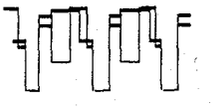
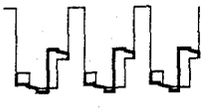
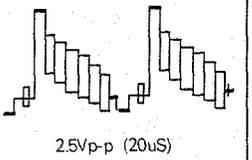
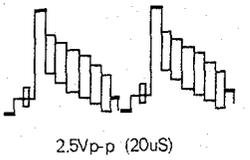
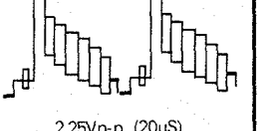
LAGE DER PLATINEN



P.C.B	FUNCTION	SCHEM. PAGE No.
B	Tuner PLL split VIF/SIF	26
C	Video Processor	31
E	AV Terminals Micro-Processor Power Supply RGB Switching Audio Output Horizontal / Vertical O/P	23
H	**(NON -TELETEXT MODELS)** Sync.Seperator TV/AV Switching	29
H	**(TELETEXT MODELS)** Text Processor Sync.Seperator TV/AV Switching	27
N	Remote Control Receiver	25
P	AC Filter Block	25
Y	CRT Drive	28

P.C.B	FUNCTION	SCHEM. PAGE No.
B	Tuner PLL split VIF/SIF	26
C	Video Prozessor	31
E	AV Anschüsse Micro-Prozessor Netzteil RGB Stufen Audio O/P Horizontal / Vertikal O/P	23
H	**(NICHTVIDEOTEXT MODELL)** SYNC- ABTRENNUNG TV/AV UMSCHALTER	29
H	**(VIDEOTEXT MODELL)** Videotext prozessor SYNC- ABTRENNUNG TV/AV UMSCHALTER	27
N	Fernbedienungs-Empfänger	25
P	Wechselspannungsfilter-Block	25
Y	BildrÖhrenansteuerung	28

WAVEFORM PATTERN TABLE
SIGNAL TABELLE

1  2.25Vp-p (20uS)	2 0.35Vp-p (20uS)	3 0.35Vp-p (20uS)
4  30mVp-p (20uS)	5  1.4Vp-p (20uS)	6 5Vp-p (20uS)
7  6Vp-p (20uS)	8 5Vp-p (5mS)	9 25Vp-p (5mS)
10 45Vp-p (5mS)	11  1.5Vp-p (5mS)	12 15Vp-p (20uS)
13  1500Vp-p (20uS)	14 60Vp-p (20uS)	15  25Vp-p (20uS)
16  4.2Vp-p (20uS)	17  4.2Vp-p (20uS)	18  4.2Vp-p (20uS)
19 120Vp-p (20uS)	20  115Vp-p (20uS)	21 120Vp-p (20uS)
22  2.5Vp-p (20uS)	23  2.5Vp-p (20uS)	24  2.25Vp-p (20uS)

REPLACEMENT PARTS LIST

ERSATZTEILLISTE

Important Safety Notice

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Wichtiger Sicherheitshinwels

Teile, die mit einen Hinweis ⚠ gerennzeichnet sind, sind wichtig für die Sicherheit. Solite ein Auswechsein erforderlich sein, sein unbedingt Originalteile einzusetzen .

Ref No.		Part No.	Description

MISCELLANEOUS COMPONENTS

1)	⚠	A51JRU40X03W	C. R. T.
2)	⚠	TKY189700	CABINET
3)	⚠	TKU322901	BACKCOVER
4)		TKP1812452	TOP COVER
5)		TKK188530-1	SCREW COVER (L-SIDE)
		TKK188535-1	SCREW COVER (R-SIDE)
6)		EAS12D528K-G	SPEAKER
7)		TKP1758141	SPEAKER NET
8)		TLK8E05106	DECAUSSING COIL
9)		TKP1812441	DOOR LID
10)		TKP1812461	SMOKED PANEL
11)		TBM153010	PANASONIC BADGE
12)		TEK6935	LID SWITCH
13)		TBX2885500	POWER BUTTON
14)		TES2281	SPRING (POWER BUTTON)
15)		TBM8E1154	PRESET LABEL
16)		TMK18087	RUBBER FOOT
17)		TBM8E1153	BACKCOVER LABEL
18)		TMX17208	P PRINT BRACKET
19)	⚠	TNP197069AW	E P. C. B.
20)	⚠	TNP107842AC	P P. C. B.
21)	⚠	TNP107801AE	B P. C. B.
22)	⚠	TNP107846AD	H P. C. B.
23)	⚠	TNP107803AJ	C P. C. B.
24)	⚠	TNP107811	N P. C. B.
25)	⚠	TNP107871AD	Y P. C. B.
26)	⚠	ENV57888F1	TUNER
27)		TMZ189824	CHASSIS RAIL
28)	⚠	TSX5131	POWER LEAD
29)		TJB17694	A. V. TERMINAL
30)		TJB17695	S-VHS/AUDIO TERMINAL
31)		TJS5A9240	21 PIN TERMINAL
32)		TNQ8E0445	REMOTE CONTROL
33)		EUR64C1169	BATTERY COVER
		TKK188522-1	POWER BUTTON SPACER
		TMW27183	TUNER BRACKET (TOP)
		TMW27185	TUNER BRACKET (BOTTOM)
		THT1009R	CRT FIXING SCREW
		TPC8E4277	CARTON
		TPD191582	TOP CUSHION
		TPD192577	BOTTOM CUSHION
	⚠	TQB8E0647	INSTRUCTION BOOK
DL2651		ELB4L122B	COIL
F801	⚠	2133.15	FUSE
		EYF52BC	FUSE HOLDER

DIFFERENCE LIST FOR TC-21M1RD

MISCELLANEOUS COMPONENTS

17)		TBM8E1159	BACKCOVER LABEL			
19)	⚠	TNP197069BC	E P. C. B.			
22)	⚠	TNP107859AB	H P. C. B.			
		TPC8E4282	CARTON			
	⚠	TQB8E0653	INSTRUCTION BOOK			
C530		ECEA1CN470	ELECT	16V		47µF
C3310		ECQM1H104J	FILM	50V		100nF
C3311		ECQM1H104J	FILM	50V		100nF
C3312		ECQM1H104J	FILM	50V		100nF
C3515		ECEA1CU102	ELECT	16V		1000µF
R528		ERD25TJ152	CARBON	0.25W	5%	1K5Ω
R529		ERD25TJ222	CARBON	0.25W	5%	2K2Ω
R2611		ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3521		ERQ14AJ100	METAL	0.25W	5%	10Ω ⚠
R3570		ERD25TJ101	CARBON	0.25W	5%	100Ω

Ref No.	Part No.	Description		

CAPACITORS

C011	ECEA1HU010	ELECT	50V	1µF
C016	ECEA1HUR22	ELECT	50V	0.22µF
C017	ECKC1H103JB	CERAMIC	50V	10nF
C018	ECKC1H103JB	CERAMIC	50V	10nF
C019	ECKC1H103JB	CERAMIC	50V	10nF
C020	ECKC1H103JB	CERAMIC	50V	10nF
C023	ECEA16Z10	ELECT	16V	10µF
C031	ECEA50ZR33	ELECT	50V	0.33µF
C032	ECEA50ZR47	ELECT	50V	0.47µF
C033	ECCR1H151J	CERAMIC	50V	150pF
C034	ECKC1H471J	CERAMIC	50V	470pF
C052	ECEA1CU471	ELECT	16V	470µF
C053	ECKC1H103JB	CERAMIC	50V	10nF
C055	ECEA1CU100	ELECT	16V	10µF
C056	ECEA1CU100	ELECT	16V	10µF
C061	ECEA1CU100	ELECT	16V	10µF
C070	ECEA1HU010	ELECT	50V	1µF
C090	ECCR1H030J	CERAMIC	50V	3pF
C091	ECCR1H070J	CERAMIC	50V	7pF
C101	ECEA1CU471	ELECT	16V	470µF
C102	ECKC1H103JB	CERAMIC	50V	10nF
C106	ECEA1HN010	ELECT	50V	1µF
C110	ECKC1H103JB	CERAMIC	50V	10nF
C112	ECKC1H103JB	CERAMIC	50V	10nF
C113	ECKC1H103JB	CERAMIC	50V	10nF
C114	ECKC1H103JB	CERAMIC	50V	10nF
C115	ECEA1CU330	ELECT	16V	33µF
C116	ECKC1H103JB	CERAMIC	50V	10nF
C117	ECKC1H103JB	CERAMIC	50V	10nF
C121	ECCR1H560J	CERAMIC	50V	56pF
C124	ECKC1H103JB	CERAMIC	50V	10nF
C130	ECCR1H120J	CERAMIC	50V	12pF
C131	ECQM1H104J	FILM	50V	100nF
C132	ECEA1CU470	ELECT	16V	47µF
C133	ECEA50ZR47	ELECT	50V	0.47µF
C137	ECKC1H103JB	CERAMIC	50V	10nF
C138	ECKC1H103JB	CERAMIC	50V	10nF
C139	ECCR1H180J	CERAMIC	50V	18pF
C140	ECEA1HU010	ELECT	50V	1µF
C142	ECCR1H390J	CERAMIC	50V	39pF
C143	ECEA50ZR47	ELECT	50V	0.47µF
C144	ECCR1H270J	CERAMIC	50V	27pF
C145	ECKC1H103JB	CERAMIC	50V	10nF
C146	ECEA1CU470	ELECT	16V	47µF
C147	ECEA1HU010	ELECT	50V	1µF
C150	ECKC1H103JB	CERAMIC	50V	10nF
C152	ECQM1H104J	FILM	50V	100nF
C153	ECEA1CU471	ELECT	16V	470µF
C154	ECKC1H271J	CERAMIC	50V	270pF
C155	ECCR1H080C	CERAMIC	50V	8pF
C157	ECCR1H270J	CERAMIC	50V	27pF
C161	ECEA1CU330	ELECT	16V	33µF
C162	ECQB1H103J	FILM	50V	10nF
C163	ECQB1H392J	FILM	50V	3900pF
C164	ECEA1CU331	ELECT	16V	330µF
C165	ECQB1H272J	FILM	50V	2700pF
C166	ECQP1562JZ	FILM	100V	5.6nF
C167	ECEA1HU010	ELECT	50V	1µF
C168	ECQB1H103J	FILM	50V	10nF
C169	ECEA1HU3R3	ELECT	50V	3.3µF
C201	ECEA1CU101	ELECT	16V	100µF
C209	ECEA1CU100	ELECT	16V	10µF
C210	ECKC1H103JB	CERAMIC	50V	10nF
C211	ECEA1HU2R2	ELECT	50V	2.2µF
C212	ECCR1H680J	CERAMIC	50V	68pF
C213	ECKC1H103JB	CERAMIC	50V	10nF

Ref No.	Part No.	Description		
C214	ECKC1H103JB	CERAMIC	50V	10nF
C215	ECCR1H020J	CERAMIC	50V	2pF
C216	ECCR1H010J	CERAMIC	50V	1pF
C217	ECEA1CU471	ELECT	16V	470μF
C219	ECEA1CU470	ELECT	16V	47μF
C220	ECQM1H224J	FILM	50V	220nF
C221	ECKC1H103JB	CERAMIC	50V	10nF
C225	ECQB1H332K	FILM	50V	3.3nF
C226	ECQB1H682K	FILM	50V	6.8nF
C227	ECEA1CN100	ELECT	16V	10μF
C229	ECEA1CN100	ELECT	16V	10μF
C231	ECKC1H103JB	CERAMIC	50V	10nF
C232	ECCR1H070J	CERAMIC	50V	7pF
C235	ECCR1H030J	CERAMIC	50V	3pF
C236	ECKC1H102J	CERAMIC	50V	1000pF
C258	ECQM1H474J	FILM	50V	470nF
C262	ECQB1H332K	FILM	50V	3.3nF
C263	ECEA1EU471	ELECT	25V	470μF
C264	ECQM1H104J	FILM	50V	100nF
C269	ECQB1H153K	FILM	50V	15nF
C272	ECEA1EU471	ELECT	25V	470μF
C273	ECEA1CU330	ELECT	16V	33μF
C280	ECEA1EU101	ELECT	25V	100μF
C302	ECQM1H104J	FILM	50V	100nF
C303	ECUV1H180JM	S.M. CAP	50V	18pF
C304	ECEA1HUR47	ELECT	50V	0.47μF
C305	ECEA1CN330	ELECT	16V	33μF
C306	ECEA1HUR47	ELECT	50V	0.47μF
C307	ECEA1CU100	ELECT	16V	10μF
C309	ECEA1HU010	ELECT	50V	1μF
C312	ECEA1CU470	ELECT	16V	47μF
C314	ECUV1H101KM	S.M. CAP	50V	100pF
C315	ECEA1EN4R7	ELECT	25V	4.7μF
C351	ECCR1H331J	CERAMIC	50V	330pF
C352	ECCR1H331J	CERAMIC	50V	330pF
C353	ECCR1H271J	CERAMIC	50V	270pF
C355	ECKC3D152J	CERAMIC	2KV	1.5nF ⚠
C357	ECKC2H152J	CERAMIC	500V	1.5nF ⚠
C358	ECEA1HU220	ELECT	50V	22μF
C360	ECEA1CU101	ELECT	16V	100μF
C362	ECKC1H102J	CERAMIC	50V	1000pF
C368	ECEA2EU010	ELECT	250V	1μF
C369	ECEA1HUR47	ELECT	50V	0.47μF
C401	ECQB1H153K	FILM	50V	15nF
C402	ECSF25E3R3	TANT	25V	3.3μF
C403	ECKC1H103JB	CERAMIC	50V	10nF
C421	ECUV1H560JM	S.M. CAP	50V	56pF
C451	ECEA1CU471	ELECT	16V	470μF
C452	ECKC1H103JB	CERAMIC	50V	10nF
C453	ECSF25E1YB	TANT	25V	1μF
C454	ECEA1VU101	ELECT	35V	100μF
C455	ECEA1VU102	ELECT	35V	1000μF
C456	ECEA1HFS010	ELECT	50V	1μF
C457	ECQM1H104J	FILM	50V	100nF
C458	ECEA1VU222	ELECT	35V	2200μF
C459	ECQB1H103J	FILM	50V	10nF
C461	ECQB1H273J	FILM	50V	27nF
C462	ECCR1H471J	CERAMIC	50V	470pF
C502	ECQB1H153K	FILM	50V	15nF
C503	ECKC1H103JB	CERAMIC	50V	10nF
C504	ECEA1EU4R7	ELECT	25V	4.7μF
C505	ECEA1HN010	ELECT	50V	1μF
C507	ECCR1H470J	CERAMIC	50V	47pF
C508	ECEA1CU470	ELECT	16V	47μF
C509	ECKC1H821J	CERAMIC	50V	820pF
C510	ECUV1H221KBM	S.M. CAP	50V	220pF
C521	ECEA1HUR47	ELECT	50V	0.47μF
C522	ECEA1CU100	ELECT	16V	10μF
C523	ECCR1H181J	CERAMIC	50V	180pF
C524	ECCR1H181J	CERAMIC	50V	180pF
C525	ECEA1AU101	ELECT	10V	100μF
C526	ECKC1H471J	CERAMIC	50V	470pF
C527	ECEA1CU470	ELECT	16V	47μF
C528	ECCR1H120J	CERAMIC	50V	12pF
C529	ECKC1H103JB	CERAMIC	50V	10nF
C531	ECKC2H332J	CERAMIC	500V	3.3nF ⚠
C532	ECKC2H332J	CERAMIC	500V	3.3nF ⚠
C533	ECCR2H330J	CERAMIC	500V	33pF
C541	ECEA1HU2R2	ELECT	50V	2.2μF
C542	ECEA1JU100	ELECT	63V	10μF
C543	ECEA1CU100	ELECT	16V	10μF
C551	ECEA2CGE4R7	ELECT	160V	4.7μF

Ref No.	Part No.	Description		
C552	ECWF2H394JZ	CERAMIC	500V	390nF ⚠
C553	ECEA2CU3R3	ELECT	160V	3.3μF
C554	ECEA2EU100	ELECT	250V	10μF
C555	ECKC2H471J	CERAMIC	500V	470pF ⚠
C557	ECKC3D102J	CERAMIC	2KV	1nF ⚠
C558	ECWH12H822J	CERAMIC	500V	8.2nF ⚠
C564	ECEA1VU101	ELECT	35V	100μF
C565	ECKC2H471J	CERAMIC	500V	470pF ⚠
C566	ECKC2H471J	CERAMIC	500V	470pF ⚠
C567	ECKC3D152J	CERAMIC	2KV	1.5nF ⚠
C569	ECQB1H563K	FILM	50V	56nF
C570	ECEA1HU220	ELECT	50V	22μF
C571	ECEA0JU101	ELECT	6.3V	100μF
C576	ECEA1CU471	ELECT	16V	470μF
C601	ECEA1CU221	ELECT	16V	220μF
C602	ECQB1H103J	FILM	50V	10nF
C603	ECQB1H103J	FILM	50V	10nF
C604	ECEA1CU471	ELECT	16V	470μF
C605	ECUV1H103ZFM	S.M. CAP	50V	10nF
C606	ECEA1CU102	ELECT	16V	1000μF
C607	ECUV1H103ZFM	S.M. CAP	50V	10nF
C609	ECQM1H334J	FILM	50V	330nF
C611	ECEA1HUR47	ELECT	50V	0.47μF
C612	ECQM1H334J	FILM	50V	330nF
C613	ECEA1HUR47	ELECT	50V	0.47μF
C614	ECQM1H334J	FILM	50V	330nF
C615	ECEA1HUR47	ELECT	50V	0.47μF
C616	ECCR1H101J	CERAMIC	50V	100pF
C617	ECRLA020E53R	TRIMMER CAPACITOR		20pF
C619	ECQM1H104J	FILM	50V	100nF
C620	ECEA1HN2R2	ELECT	50V	2.2μF
C621	ECQM1H104J	FILM	50V	100nF
C622	ECQM1H334J	FILM	50V	330nF
C623	ECEA1VU4R7	ELECT	35V	4.7μF
C624	ECEA1HUR47	ELECT	50V	0.47μF
C625	ECQB1H103J	FILM	50V	10nF
C626	ECQM1H104J	FILM	50V	100nF
C627	ECQB1H103J	FILM	50V	10nF
C628	ECQM1562JZ	FILM	100V	5.6nF
C629	ECQB1H103J	FILM	50V	10nF
C630	ECUV1H103ZFM	S.M. CAP	50V	10nF
C632	ECEA1CU101	ELECT	16V	100μF
C633	ECCR1H470J	CERAMIC	50V	47pF
C634	ECCR1H470J	CERAMIC	50V	47pF
C635	ECCR1H560J	CERAMIC	50V	56pF
C649	ECKC1H103JB	CERAMIC	50V	10nF
C651	ECUV1H271JM	S.M. CAP	50V	270pF
C652	ECEA1CU220	ELECT	16V	22μF
C653	ECQM1H104J	FILM	50V	100nF
C654	ECQM1H104J	FILM	50V	100nF
C655	ECQM1H104J	FILM	50V	100nF
C656	ECCR1H151J	CERAMIC	50V	150pF
C657	ECQM1H104J	FILM	50V	100nF
C659	ECUV1H103ZFM	S.M. CAP	50V	10nF
C661	ECEA1HU010	ELECT	50V	1μF
C662	ECUV1H103ZFM	S.M. CAP	50V	10nF
C663	ECEA1CU101	ELECT	16V	100μF
C664	ECEA50Z1	ELECT	50V	1μF
C665	ECCR1H391J	CERAMIC	50V	390pF
C666	ECUV1H560JM	S.M. CAP	50V	56pF
C667	ECUV1H103ZFM	S.M. CAP	50V	10nF
C668	ECUV1H101KM	S.M. CAP	50V	100pF
C670	ECUV1H103ZFM	S.M. CAP	50V	10nF
C671	ECUV1H102KBM	S.M. CAP	50V	1nF
C672	ECUV1H330JM	S.M. CAP	50V	33pF
C673	ECCR1H271J	CERAMIC	50V	270pF
C674	ECCR1H271J	CERAMIC	50V	270pF
C675	ECUV1H221KBM	S.M. CAP	50V	220pF
C676	ECCR1H221J	CERAMIC	50V	220pF
C677	ECEA1CU102	ELECT	16V	1000μF
C683	ECUV1H100DM	S.M. CAP	50V	10pF
C802	ECQU2A473MN	FILM	200V	47nF ⚠
C803	ECKC2H472J	CERAMIC	500V	4.7nF ⚠
C804	ECKC2H472J	CERAMIC	500V	4.7nF ⚠
C805	ECKC2H472J	CERAMIC	500V	4.7nF ⚠
C806	ECKC2H472J	CERAMIC	500V	4.7nF ⚠
C807	ECOS2GA181DA	ELECT	400V	180μF
C808	ECEA1HFS100	ELECT	50V	10μF
C809	ECEA0JU101	ELECT	6.3V	100μF
C810	ECQM6473KZ	FILM	600V	47nF
C813	ECKCNS332J	CERAMIC	1.2KV	3.3nF ⚠
C815	ECKC2H471J	CERAMIC	500V	470pF ⚠

Ref No.	Part No.	Description		
C817	ECKC1H332J	CERAMIC	50V	3300pF
C818	ECKCNS102J	CERAMIC	1.2KV	1nF △
C819	ECQU2A473MN	FILM	200V	47nF △
C820	ECKC3A222J	CERAMIC	1KV	2200pF △
C851	ECKC3A152J	CERAMIC	1KV	1500pF △
C853	ECKC2H561J	CERAMIC	500V	560pF △
C854	ECA2CGE221	ELECT	160V	220μF
C856	ECEA1EU471	ELECT	25V	470μF
C857	ECKC2H471J	CERAMIC	500V	470pF △
C858	ECEA1EGE102	ELECT	25V	1000μF
C860	ECKC1H103JB	CERAMIC	50V	10nF
C861	ECEA1CU101	ELECT	16V	100μF
C863	ECQM1H104J	FILM	50V	100nF
C864	ECEA1CU100	ELECT	16V	10μF
C866	ECEA1EN100	ELECT	25V	10μF
C1134	ECKC1H271J	CERAMIC	50V	270pF
C1136	ECEA0JU101	ELECT	6.3V	100μF
C1201	ECKC1H103JB	CERAMIC	50V	10nF
C1204	ECCR1H101J	CERAMIC	50V	100pF
C1205	ECQB1H103J	FILM	50V	10nF
C1206	ECEA1CU102	ELECT	16V	1000μF
C1207	ECCR1H121J	CERAMIC	50V	120pF
C1208	ECQM1H104J	FILM	50V	100nF
C1210	ECKC1H103JB	CERAMIC	50V	10nF
C1214	ECEA0JU221	ELECT	6.3V	220μF
C1217	ECKC1H103JB	CERAMIC	50V	10nF
C1219	ECCR1H680J	CERAMIC	50V	68pF
C1221	ECKC1H103JB	CERAMIC	50V	10nF
C1222	ECEA0JU471	ELECT	6.3V	470μF
C1227	ECKC1H103JB	CERAMIC	50V	10nF
C1235	ECEA1HU2R2	ELECT	50V	2.2μF
C1236	ECEA1HU2R2	ELECT	50V	2.2μF
C1237	ECKC1H472J	CERAMIC	50V	4.7nF
C1239	ECCR1H560J	CERAMIC	50V	56pF
C1246	ECKC1H102J	CERAMIC	50V	1000pF
C1247	ECKC1H181J	CERAMIC	50V	180pF
C1249	ECQM1H104J	FILM	50V	100nF
C1250	EXFP6471ZF	NETWORK	COMPONENT	
C1251	ECKC1H101J	CERAMIC	50V	100pF
C1253	ECCR1H101J	CERAMIC	50V	100pF
C1256	ECEA0JU471	ELECT	6.3V	470μF
C1257	ECKC1H681J	CERAMIC	50V	680pF
C1258	ECCR1H220J	CERAMIC	50V	22pF
C1259	ECKC1H271J	CERAMIC	50V	270pF
C1260	ECCR1H121J	CERAMIC	50V	120pF
C1261	ECKC1H102J	CERAMIC	50V	1000pF
C1263	ECKC1H103JB	CERAMIC	50V	10nF
C1264	ECKC1H471J	CERAMIC	50V	470pF
C1265	ECKC1H471J	CERAMIC	50V	470pF
C1266	ECKC1H471J	CERAMIC	50V	470pF
C1267	ECKC1H471J	CERAMIC	50V	470pF
C1269	ECCR1H121J	CERAMIC	50V	120pF
C1270	ECCR1H220J	CERAMIC	50V	22pF
C1272	ECCR1H471J	CERAMIC	50V	470pF
C1273	ECKC1H102J	CERAMIC	50V	1000pF
C1274	ECKC1H152J	CERAMIC	50V	1.5nF
C1275	ECEA50ZR1	ELECT	50V	0.1μF
C1276	ECEA50Z3R3	ELECT	50V	3.3μF
C1301	ECEA1HU3R3	ELECT	50V	3.3μF
C1302	ECKC1H103JB	CERAMIC	50V	10nF
C1303	ECQB1H393K	FILM	50V	39nF
C1304	ECQB1H103J	FILM	50V	10nF
C2158	ECRLA020E53R	TRIMMER	CAPACITOR	20pF
C2605	ECEA1HN010	ELECT	50V	1μF
C2606	ECEA1CU471	ELECT	16V	470μF
C2607	ECKC1H561J	CERAMIC	50V	560pF
C2608	ECKC1H222J	CERAMIC	50V	2.2nF
C2609	ECKC1H222J	CERAMIC	50V	2.2nF
C2610	ECKC1H561J	CERAMIC	50V	560pF
C2611	ECEA1CU470	ELECT	16V	47μF
C2615	ECKC1H222J	CERAMIC	50V	2.2nF
C2616	ECKC1H222J	CERAMIC	50V	2.2nF
C2625	ECQM1H334J	FILM	50V	330nF
C2626	ECEA1HN010	ELECT	50V	1μF
C2628	ECKC1H102J	CERAMIC	50V	1000pF
C2630	ECEA1CN100	ELECT	16V	10μF
C2631	ECEA1CN100	ELECT	16V	10μF
C2632	ECEA1CN100	ELECT	16V	10μF
C2635	ECEA1CN100	ELECT	16V	10μF
C2636	ECEA1CN100	ELECT	16V	10μF
C2638	ECKC1H103JB	CERAMIC	50V	10nF
C2639	ECEA1CN100	ELECT	16V	10μF

Ref No.	Part No.	Description		
C2640	ECEA1CU471	ELECT	16V	470μF
C2641	ECEA1CN470	ELECT	16V	47μF
C2642	ECEA1CN100	ELECT	16V	10μF
C2651	ECUV1H103ZFM	S.M. CAP	50V	10nF
C2652	ECEA1CN330	ELECT	16V	33μF
C2653	ECEA1CU470	ELECT	16V	47μF
C2656	ECEA1CN100	ELECT	16V	10μF
C2657	ECEA1CU331	ELECT	16V	330μF
C2658	ECQM1H104J	FILM	50V	100nF
C2659	ECUV1H103ZFM	S.M. CAP	50V	10nF
C2660	ECQM1H104J	FILM	50V	100nF
C2662	ECQB1H103J	FILM	50V	10nF
C2670	ECEA1CU471	ELECT	16V	470μF
C2690	ECQM1H224J	FILM	50V	220nF
C3301	ECQM1H104J	FILM	50V	100nF
C3302	ECEA1CU471	ELECT	16V	470μF
C3303	ECEA1HU3R3	ELECT	50V	3.3μF
C3304	ECKC1H103JB	CERAMIC	50V	10nF
C3305	ECQB1H332K	FILM	50V	3.3nF
C3502	ECQM1H104J	FILM	50V	100nF
C3503	ECQM1H334J	FILM	50V	330nF
C3504	ECEA1EU330	ELECT	25V	33μF
C3506	ECEA1HUR47	ELECT	50V	0.47μF
C3507	ECEA1CU471	ELECT	16V	470μF
C3508	ECKC1H103JB	CERAMIC	50V	10nF
C3516	ECEA1CU471	ELECT	16V	470μF
C3521	ECQM1H104J	FILM	50V	100nF
C3522	ECEA1HU2R2	ELECT	50V	2.2μF
C3523	ECEA0JU101	ELECT	6.3V	100μF
C3524	ECEA1CU101	ELECT	16V	100μF
C3525	ECEA1CU470	ELECT	16V	47μF
C3526	ECKC1H103JB	CERAMIC	50V	10nF
C3527	ECCR1H220J	CERAMIC	50V	22pF
C3528	ECCR1H150J	CERAMIC	50V	15pF
C3532	ECQM1H104J	FILM	50V	100nF
C3533	ECQM1H104J	FILM	50V	100nF
C3534	ECEA1CU101	ELECT	16V	100μF
C3536	ECKC1H103JB	CERAMIC	50V	10nF
C3544	ECCR1H150J	CERAMIC	50V	15pF
C3545	ECCR1H270J	CERAMIC	50V	27pF
C3546	ECKC1H103JB	CERAMIC	50V	10nF
C3548	ECEA0JU101	ELECT	6.3V	100μF
C3550	ECEA1HN010	ELECT	50V	1μF
C3552	ECKC1H103JB	CERAMIC	50V	10nF
C3553	ECEA1CU221	ELECT	16V	220μF
C3554	ECCR1H100J	CERAMIC	50V	10pF
C3555	ECEA1CN330	ELECT	16V	33μF
C3556	ECCR1H100J	CERAMIC	50V	10pF
C3557	ECCR1H221J	CERAMIC	50V	220pF
C3558	ECRBA160N11	TRIMMER	CAPACITOR	160pF
C3559	ECCR1H560J	CERAMIC	50V	56pF
C3561	ECEA50Z1	ELECT	50V	1μF
C3563	ECEA1CU101	ELECT	16V	100μF
C3564	ECKC1H103JB	CERAMIC	50V	10nF
C3565	ECKC1H102J	CERAMIC	50V	1000pF
C3566	ECKC1H471J	CERAMIC	50V	470pF
C3567	ECKC1H471J	CERAMIC	50V	470pF
C3568	ECKC1H471J	CERAMIC	50V	470pF
C3570	ECEA0JU471	ELECT	6.3V	470μF
C3571	ECQM1H104J	FILM	50V	100nF
C3572	ECEA1CU100	ELECT	16V	10μF
C3573	ECKC1H103JB	CERAMIC	50V	10nF
C3574	ECEA1CN100	ELECT	16V	10μF
C3575	ECEA1CN100	ELECT	16V	10μF
C3576	ECEA1CN100	ELECT	16V	10μF

DIODES

D031	MA858TA5	DIODE
D132	TVSQB109SA	DIODE
D201	MA165TA5	DIODE
D204	MA165TA5	DIODE
D206	MA165TA5	DIODE
D207	MA165TA5	DIODE
D209	MA4056	DIODE
D210	MA165TA5	DIODE
D221	MA858TA5	DIODE
D230	MA165TA5	DIODE
D231	MA165TA5	DIODE
D241	MA858TA5	DIODE

Ref No.	Part No.	Description
D301	MA165TA5	DIODE
D302	MA165TA5	DIODE
D303	MA165TA5	DIODE
D304	MA29TA5	DIODE
D355	MA165TA5	DIODE
D356	MA165TA5	DIODE
D357	MA165TA5	DIODE
D358	MA165TA5	DIODE
D401	MA165TA5	DIODE
D403	MA165TA5	DIODE
D451	BYD31D-26MM	DIODE
D501	MA165TA5	DIODE
D520	MA165TA5	DIODE
D521	MA4120	DIODE
D541	MA4360	DIODE
D544	MA165TA5	DIODE
D551	BYD31D-26MM	DIODE
D552	MA167TA5	DIODE
D554	BYD31D-26MM	DIODE
D560	MA165TA5	DIODE
D561	MA165TA5	DIODE
D565	EU02	DIODE
D601	MA4051	DIODE
D603	MA165TA5	DIODE
D605	MA165TA5	DIODE
D629	MA4068HTA	DIODE
D659	MA858TA5	DIODE
D801	RBV4-08	DIODE
D804	ERZC10DK621	DIODE
D805	232266296009	DIODE
D807	ERA22-04V3	DIODE
D809	BYD31D-26MM	DIODE
D810	ERB0615	DIODE
D811	TLP621GR-LF2	PHOTO COUPLER ⚠
D812	BYD31D-26MM	DIODE
D813	MA4360	DIODE
D851	TVSC2408M	DIODE
D853	ERD32-02L7	DIODE
D854	SR2KN	DIODE
D855	BYW95APFK8	DIODE
D856	MA165TA5	DIODE
D857	MA4082	DIODE
D1101	LN81RPHL	DIODE
D1208	TVSS1WBS10	DIODE
D1225	MA4082	DIODE
D1232	MA165TA5	DIODE
D1243	MA165TA5	DIODE
D1252	MA165TA5	DIODE
D1255	MA165TA5	DIODE
D1267	MA165TA5	DIODE
D1269	MA165TA5	DIODE
D1305	MA165TA5	DIODE
D1306	MA165TA5	DIODE
D2603	MA165TA5	DIODE
D2607	MA165TA5	DIODE
D2612	MA165TA5	DIODE
D2621	MA700TA5	DIODE
D2622	MA858TA5	DIODE
D2690	MA165TA5	DIODE
D3301	MA858TA5	DIODE
D3302	MA29TA5	DIODE
D3307	MA4068HTA	DIODE
D3502	MA165TA5	DIODE
D3503	MA165TA5	DIODE
D3504	MA165TA5	DIODE
D3505	MA165TA5	DIODE
D3510	MA165TA5	DIODE
D3511	MA165TA5	DIODE
D3526	MA165TA5	DIODE
D3527	MA4082	DIODE
D3541	MA165TA5	DIODE
D3542	MA165TA5	DIODE
D3543	MA165TA5	DIODE
D3576	MA165TA5	DIODE
DL2651	ELB4L122B	COIL

INTEGRATED CIRCUITS

IC070	UPC574J	REGULATOR
IC101	M51362SP	SPLIT VIF/SIF
IC161	AN5421	SYNC DETECTOR
IC251	AN5265	AUDIO OUTPUT
IC451	LA7837	VERTICAL OUTPUT
IC521	AN5650	SYNC SEPERATOR
IC601	AN5603K	VIDEO PROCESSOR
IC602	AN5633K	SECAM DECODER
IC801	STR54041-M	POWER REGULATOR ⚠
IC851	L78M12MRB	12V REGULATOR
IC1202	ST24C02A	EEPROM
IC1204	L78M05MRB	5V REGULATOR
IC1212	MN1280R	RESET
IC1213	MN1872419TZA	MICROPROCESSOR
IC1301	AN5560	SWITCHING
IC1610	SBX1610-46	REMOTE RECEIVER
IC2601	LA7222-TV	SWITCHING
IC2651	LA7222-TV	SWITCHING
IC3301	AN5860	SWITCHING
IC3302	AN5862K	SWITCHING
IC3501	SAA5246PEM4A	IVT MICROPROCESSOR
IC3505	L78M05MRB	5V REGULATOR
IC3506	FCB61C65-70P	SRAM MEMORY
IC3507	MAB8461PW216	TEXT CONTROL
IC3508	TC4066BP	SWITCHING

SURFACE MOUNTED LINKS

JC.10	ERJ6GMY0R00	S.M.LINK
JC.11	ERJ6GMY0R00	S.M.LINK
JC.12	ERJ6GMY0R00	S.M.LINK
JC.13	ERJ6GMY0R00	S.M.LINK
JC.14	ERJ6GMY0R00	S.M.LINK
JC.15	ERJ6GMY0R00	S.M.LINK
JC.16	ERJ6GMY0R00	S.M.LINK
JC.17	ERJ6GMY0R00	S.M.LINK
JC.18	ERJ6GMY0R00	S.M.LINK
JC.19	ERJ6GMY0R00	S.M.LINK
JC.20	ERJ6GMY0R00	S.M.LINK
JC.23	ERJ6GMY0R00	S.M.LINK
JC.1	ERJ6GMY0R00	S.M.LINK
JC.2	ERJ6GMY0R00	S.M.LINK
JC.3	ERJ6GMY0R00	S.M.LINK
JC.4	ERJ6GMY0R00	S.M.LINK
JC.5	ERJ6GMY0R00	S.M.LINK
JC.6	ERJ6GMY0R00	S.M.LINK
JC.7	ERJ6GMY0R00	S.M.LINK
JC.8	ERJ6GMY0R00	S.M.LINK
JC.9	ERJ6GMY0R00	S.M.LINK
JCG.K	ERJ6GMY0R00	S.M.LINK

COILS

L015	ELESN100KA	COIL
L016	ELESN100KA	COIL
L017	ELESN100KA	COIL
L102	ELESN1R0KA	COIL
L105	EIV7EN054B	COIL
L106	EIV7EN055B	COIL
L110	TLI157X57	COIL
L114	ELESN2R2KA	COIL
L121	ELESN100KA	COIL
L130	ELESN220KA	COIL
L131	ELESN220KA	COIL
L137	ELESN180KA	COIL
L151	ELESN120KA	COIL
L201	EXCELDR35V	COIL
L202	EXCELDR35V	COIL
L210	ELESN4R7KA	COIL
L211	TLI151X55	COIL
L214	ELESN680KA	COIL
L216	ELB5A072	COIL
L217	ELB5A070	COIL
L221	ELESN221KA	COIL
L222	ELESN221KA	COIL
L235	ELESN4R7KA	COIL
L301	TLX330J176C	COIL
L351	ELESN181KA	COIL
L352	ELESN181KA	COIL
L353	ELESN181KA	COIL
L354	EXCELDR35V	COIL
L355	EXCELDR35V	COIL

Ref No.	Part No.	Description
L356	EXCELDR35V	COIL
L482	ELESN8R2KA	COIL
L552	ELC07B014	COIL
L553	TLH15661P	TRANSFORMER
L554	ELH16F779	COIL
L556	EXCELSA24B	COIL
L601	EIK7ES002B	COIL
L602	ELESN100KA	COIL
L604	EFDEN645A61F	DELAY LINE
L652	ELESN121KA	COIL
L653	EIK7ES723B	COIL
L654	TLK269071Q	I.F.T. COIL
L656	ELESN100KA	COIL
L657	ELESN221KA	COIL
L666	ELESN100KA	COIL
L801	ELF18D650L	COIL ⚠
L802	ELF18D650L	COIL ⚠
L803	EXCELSA24T	COIL
L804	EXCELSA24T	COIL
L806	EXCELSA24T	COIL
L818	ELEXT100KA	COIL
L852	EXCELDR35V	COIL
L854	ELESN1R5KA	COIL
L855	EXCELSA24T	COIL
L857	ELESN1R5KA	COIL
L859	EXCELDR35V	COIL
L1131	ELESN100KA	COIL
L1200	ELEXT100KA	COIL
L1203	ELEXT100KA	COIL
L1204	ELKTR150GA	COIL
L1205	ELESN8R2KA	COIL
L1210	EXCELSA35T	COIL
L1220	ELEXT100KA	COIL
L1221	ELEXT100KA	COIL
L1223	ELEXT100KA	COIL
L1231	ELEXT100KA	COIL
L1232	ELKTR150GA	COIL
L1233	ELKTR150GA	COIL
L1234	ELKTR150GA	COIL
L1235	ELEXT100KA	COIL
L1240	ELESN100KA	COIL
L1241	ELEXT100KA	COIL
L1246	ELEXT1R0KA	COIL
L1247	ELEXT100KA	COIL
L1248	ELEXT100KA	COIL
L1250	ELEXT100KA	COIL
L1252	ELEXT100KA	COIL
L1253	ELEXT100KA	COIL
L1254	ELEXT100KA	COIL
L1255	ELEXT100KA	COIL
L2112	TLS153254-1	COIL
L2601	ELESN220KA	COIL
L2602	ELESN220KA	COIL
L2604	ELESN220KA	COIL
L2605	ELESN220KA	COIL
L2640	ELESN470KA	COIL
L2657	ELESN100KA	COIL
L3501	ELESN1R5KA	COIL
L3502	ELESN100KA	COIL
L3503	ELESN4R7KA	COIL
L3504	ELESN100KA	COIL
L3505	ELESN100KA	COIL
L3510	ELESN100KA	COIL
L3515	ELESN100KA	COIL
LC010	ELB5A083	COIL
LC011	ELB5A077	COIL
LC302	TLK150887E	COIL
LC601	ELB4N050	DELAY LINE
T101	EIV7EN078B	COIL

TRANSISTORS

Q014	2SA1309ATA	TRANSISTOR
Q015	2SA1309ATA	TRANSISTOR
Q016	2SA1309ATA	TRANSISTOR
Q030	2SC1688-TA	TRANSISTOR
Q112	BF370	TRANSISTOR
Q130	2SA1309ATA	TRANSISTOR
Q142	2SC3311ATA	TRANSISTOR
Q150	2SA1309ATA	TRANSISTOR
Q161	2SC3311ATA	TRANSISTOR
Q162	UN4211TA	TRANSISTOR

Ref No.	Part No.	Description
Q201	2SA1309ATA	TRANSISTOR
Q202	UN4211TA	TRANSISTOR
Q210	2SC1047-BCD	TRANSISTOR
Q229	2SC3311ATA	TRANSISTOR
Q235	2SC3354TA	TRANSISTOR
Q241	2SC3311ATA	TRANSISTOR
Q302	2SA1309ATA	TRANSISTOR
Q307	UN4213TA	TRANSISTOR
Q351	2SC2923-RL	TRANSISTOR
Q352	2SC2923-RL	TRANSISTOR
Q353	2SC2923-RL	TRANSISTOR
Q356	2SA719-TA	TRANSISTOR
Q403	UN4213TA	TRANSISTOR
Q404	UN4213TA	TRANSISTOR
Q466	2SC3311ATA	TRANSISTOR
Q501	2SC1573AH	TRANSISTOR
Q521	2SC3311ATA	TRANSISTOR
Q541	2SA1309ATA	TRANSISTOR
Q542	2SC3311ATA	TRANSISTOR
Q554	2SD1541LB	TRANSISTOR
Q558	2SA879	TRANSISTOR
Q601	2SC3311ATA	TRANSISTOR
Q635	2SC3311ATA	TRANSISTOR
Q636	2SC3311ATA	TRANSISTOR
Q650	2SC3311ATA	TRANSISTOR
Q651	2SC3311ATA	TRANSISTOR
Q666	2SA1309ATA	TRANSISTOR
Q667	2SA1309ATA	TRANSISTOR
Q668	2SA1309ATA	TRANSISTOR
Q801	2SD965-R	TRANSISTOR
Q802	2SD965-R	TRANSISTOR
Q851	UN4111TA	TRANSISTOR
Q1131	2SC3311ATA	TRANSISTOR
Q1132	UN4213TA	TRANSISTOR
Q1201	2SC3311ATA	TRANSISTOR
Q1203	UN4211TA	TRANSISTOR
Q1215	2SC3311ATA	TRANSISTOR
Q1216	2SC3311ATA	TRANSISTOR
Q1251	2SC3311ATA	TRANSISTOR
Q1255	2SC3311ATA	TRANSISTOR
Q1266	2SC3311ATA	TRANSISTOR
Q1267	2SC3311ATA	TRANSISTOR
Q1272	2SA1309ATA	TRANSISTOR
Q1273	2SC3311ATA	TRANSISTOR
Q1274	2SA1309ATA	TRANSISTOR
Q1302	UN4213TA	TRANSISTOR
Q2602	2SD1469-M	TRANSISTOR
Q2604	2SA1309ATA	TRANSISTOR
Q2605	2SC3311ATA	TRANSISTOR
Q2610	2SC3311ATA	TRANSISTOR
Q2614	2SA1309ATA	TRANSISTOR
Q2627	2SC3311ATA	TRANSISTOR
Q2641	UN4211TA	TRANSISTOR
Q2690	2SC3311ATA	TRANSISTOR
Q3301	2SC3311ATA	TRANSISTOR
Q3302	2SC3311ATA	TRANSISTOR
Q3501	2SC3311ATA	TRANSISTOR
Q3502	2SC3311ATA	TRANSISTOR
Q3506	2SC3311ATA	TRANSISTOR
Q3510	2SC3311ATA	TRANSISTOR
Q3511	2SC3311ATA	TRANSISTOR
Q3513	2SC3311ATA	TRANSISTOR
Q3514	2SA1309ATA	TRANSISTOR
Q3515	2SC3311ATA	TRANSISTOR
Q3522	2SA1309ATA	TRANSISTOR
Q3523	UN4210TA	TRANSISTOR

RESISTORS

R011	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R012	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R013	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R014	ERD25TJ153	CARBON	0.25W	5%	15KΩ
R015	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R016	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R017	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R018	ERD25TJ474	CARBON	0.25W	5%	470KΩ
R031	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R032	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R033	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R034	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R035	ERD25TJ183	CARBON	0.25W	5%	18KΩ
R050	ERD25TJ683	CARBON	0.25W	5%	68KΩ

Ref No.	Part No.	Description				
R051	ERD25TJ683	CARBON	0.25W	5%	68KΩ	
R057	ERQ14AJ100	METAL	0.25W	5%	10Ω	⚠
R070	ERG5SJ153	METAL	5W	5%	15KΩ	
R102	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R112	ERD25TJ392	CARBON	0.25W	5%	3K9Ω	
R113	ERD25TJ392	CARBON	0.25W	5%	3K9Ω	
R114	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R115	ERD25TJ221	CARBON	0.25W	5%	220Ω	
R128	EVNDCAA03B53	RF AGC			5KΩ	
R130	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R131	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R133	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R134	ERD25TJ392	CARBON	0.25W	5%	3K9Ω	
R136	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R137	ERD25TJ824	CARBON	0.25W	5%	820KΩ	
R138	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R141	ERD25TJ122	CARBON	0.25W	5%	1K2Ω	
R142	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R144	ERD25TJ473	CARBON	0.25W	5%	47KΩ	
R145	ERD25TJ470	CARBON	0.25W	5%	47Ω	
R146	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R147	ERD25TJ154	CARBON	0.25W	5%	150KΩ	
R148	ERD25TJ154	CARBON	0.25W	5%	150KΩ	
R149	ERQ12HJ330	METAL	0.5W	5%	33Ω	⚠
R150	ERD25TJ561	CARBON	0.25W	5%	560Ω	
R151	ERD25TJ271	CARBON	0.25W	5%	270Ω	
R152	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R153	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R155	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R156	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R157	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R159	ERD25TJ272	CARBON	0.25W	5%	2K7Ω	
R160	ERD25TJ221	CARBON	0.25W	5%	220Ω	
R161	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R162	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R163	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R164	ERD25TJ151	CARBON	0.25W	5%	150Ω	
R165	ERD25TJ472	CARBON	0.25W	5%	4K7Ω	
R166	ERD25TJ104	CARBON	0.25W	5%	100KΩ	
R168	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R169	ERD25TJ393	CARBON	0.25W	5%	39KΩ	
R170	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R171	ERD25TJ104	CARBON	0.25W	5%	100KΩ	
R172	ERD25TJ393	CARBON	0.25W	5%	39KΩ	
R173	ERD25TJ822	CARBON	0.25W	5%	8K2Ω	
R174	ERD25TJ332	CARBON	0.25W	5%	3K3Ω	
R175	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R186	EVND4AA00B23	H.F. ADJUST (MUTE)			2KΩ	
R206	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R208	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R210	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R212	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R213	ERG1ANJ470	METAL	1W	5%	47Ω	
R214	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R215	ERD25TJ331	CARBON	0.25W	5%	330Ω	
R216	ERD25TJ822	CARBON	0.25W	5%	8K2Ω	
R217	ERD25TJ331	CARBON	0.25W	5%	330Ω	
R219	ERD25TJ822	CARBON	0.25W	5%	8K2Ω	
R220	ERD25TJ683	CARBON	0.25W	5%	68KΩ	
R221	ERQ14AJ560	METAL	0.25W	5%	56Ω	⚠
R223	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R224	ERD25TJ683	CARBON	0.25W	5%	68KΩ	
R225	ERD25TJ822	CARBON	0.25W	5%	8K2Ω	
R226	ERD25TJ123	CARBON	0.25W	5%	12KΩ	
R227	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R228	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R229	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R231	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R232	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R233	ERD25TJ182	CARBON	0.25W	5%	1K8Ω	
R234	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R235	ERD25TJ821	CARBON	0.25W	5%	820Ω	
R236	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R237	ERD25TJ562	CARBON	0.25W	5%	5K6Ω	
R238	ERD25TJ470	CARBON	0.25W	5%	47Ω	
R239	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R240	ERD25TJ680	CARBON	0.25W	5%	68Ω	
R241	ERD25TJ472	CARBON	0.25W	5%	4K7Ω	
R242	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R243	ERD25TJ104	CARBON	0.25W	5%	100KΩ	
R248	ERD25TJ472	CARBON	0.25W	5%	4K7Ω	
R260	ERD25TJ2R2	CARBON	0.25W	5%	2R2Ω	

Ref No.	Part No.	Description				
R262	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R266	ERD25TJ472	CARBON	0.25W	5%	4K7Ω	
R283	ERD25TJ472	CARBON	0.25W	5%	4K7Ω	
R288	ERDS1FJ1R0	CARBON	0.5W	5%	1Ω	⚠
R302	EVND4AA00B54	SUB CONTRAST			50KΩ	
R303	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R304	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R306	ERJ6GMYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R307	ERJ6GMYJ272	S.M.CARB	0.1W	5%	2K7Ω	
R308	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R309	ERJ6GMYJ151	S.M.CARB	0.1W	5%	150Ω	
R310	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R311	ERJ6GMYJ681	S.M.CARB	0.1W	5%	680Ω	
R312	ERJ6GMYJ152	S.M.CARB	0.1W	5%	1K5Ω	
R313	ERJ6GMYJ101	S.M.CARB	0.1W	5%	100Ω	
R316	ERD25TJ153	CARBON	0.25W	5%	15KΩ	
R317	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R318	ERD25TJ473	CARBON	0.25W	5%	47KΩ	
R319	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R320	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R321	EVNDCAA03B54	SUB BRIGHTNESS			50KΩ	
R322	ERD25TJ334	CARBON	0.25W	5%	330KΩ	
R323	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R324	ERJ6GMYJ151	S.M.CARB	0.1W	5%	150Ω	
R325	ERJ6GMYJ563	S.M.CARB	0.1W	5%	56KΩ	
R326	ERD25TJ183	CARBON	0.25W	5%	18KΩ	
R327	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R328	ERJ6GMYJ102	S.M.CARB	0.1W	5%	1KΩ	
R329	ERJ6GMYJ122	S.M.CARB	0.1W	5%	1K2Ω	
R330	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R331	ERD25TJ473	CARBON	0.25W	5%	47KΩ	
R338	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R339	ERJ6GMYJ392	S.M.CARB	0.1W	5%	3K9Ω	
R341	ERD25TJ123	CARBON	0.25W	5%	12KΩ	
R342	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R345	ERD25TJ563	CARBON	0.25W	5%	56KΩ	
R346	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R347	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R348	ERD25TJ225	CARBON	0.25W	5%	2M2Ω	
R350	ERD25TJ332	CARBON	0.25W	5%	3K3Ω	
R350	ERJ6GMYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R351	ERG2ANJ822	METAL	2W	5%	8K2Ω	
R352	ERG2ANJ822	METAL	2W	5%	8K2Ω	
R353	ERG2ANJ822	METAL	2W	5%	8K2Ω	
R354	ERD25TJ181	CARBON	0.25W	5%	180Ω	
R355	ERD25TJ271	CARBON	0.25W	5%	270Ω	
R356	ERD25TJ181	CARBON	0.25W	5%	180Ω	
R357	EVN65UA00B22	GREEN DRIVE			200Ω	
R358	EVN65UA00B22	RED DRIVE			200Ω	
R359	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R360	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R361	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R362	EVN65UA00B53	GREEN CUTOFF			5KΩ	
R364	EVN65UA00B53	RED CUTOFF			5KΩ	
R365	ERDS1FJ152	CARBON	0.5W	5%	1K5Ω	⚠
R366	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R367	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R369	EVN65UA00B53	BLUE CUTOFF			5KΩ	
R374	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R376	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R377	ERD25TJ391	CARBON	0.25W	5%	390Ω	
R378	ERD25TJ274	CARBON	0.25W	5%	270KΩ	
R379	ERD25TJ393	CARBON	0.25W	5%	39KΩ	
R380	ERD25TJ684	CARBON	0.25W	5%	680KΩ	
R401	EVNDCAA03B25	N.V.HOLD			200KΩ	
R403	EVNDCAA03B14	VERTICAL HOLD			10KΩ	
R404	ERJ6GMYJ822	S.M.CARB	0.1W	5%	8K2Ω	
R405	ERJ6GMYJ272	S.M.CARB	0.1W	5%	2K7Ω	
R406	ERJ6GMYJ100	S.M.CARB	0.1W	5%	10Ω	
R407	ERJ6GMYJ393	S.M.CARB	0.1W	5%	39KΩ	
R408	ERJ6GMYJ103	S.M.CARB	0.1W	5%	10KΩ	
R450	ERD25TJ155	CARBON	0.25W	5%	1M5Ω	
R451	ERD25TJ273	CARBON	0.25W	5%	27KΩ	
R452	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R453	ERQ12HJU3R9	METAL	0.5W	5%	3R9Ω	⚠
R454	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R455	EVNDCAA03B15	VERTICAL HEIGHT			100KΩ	
R456	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R457	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R458	ERD25TJ393	CARBON	0.25W	5%	39KΩ	
R459	ERDS1TJ1R2	CARBON	0.5W	5%	1R2Ω	
R460	ERD25TJ183	CARBON	0.25W	5%	18KΩ	

Ref No.	Part No.	Description			
R1107	ERO25CKF2371	METAL	0.25W	1%	2K37Ω ⚠
R1108	ERO25CKF2371	METAL	0.25W	1%	2K37Ω ⚠
R1109	ERO25CKF3161	METAL	0.25W	1%	3K16Ω ⚠
R1110	ERO25CKF4871	METAL	0.25W	1%	4K87Ω ⚠
R1111	ERO25CKF9531	METAL	0.25W	1%	9K53Ω ⚠
R1112	ERO25CKF2371	METAL	0.25W	1%	2K37Ω ⚠
R1113	ERO25CKF2371	METAL	0.25W	1%	2K37Ω ⚠
R1114	ERO25CKF3161	METAL	0.25W	1%	3K16Ω ⚠
R1115	ERO25CKF4871	METAL	0.25W	1%	4K87Ω ⚠
R1117	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1118	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1119	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1122	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1123	ERD25TJ822	CARBON	0.25W	5%	8K2Ω
R1128	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1129	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1130	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1131	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R1132	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1135	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1149	ERO25CKF2152	METAL	0.25W	1%	21K5Ω ⚠
R1191	ERD25TJ271	CARBON	0.25W	5%	270Ω
R1201	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1202	ERD25TJ821	CARBON	0.25W	5%	820Ω
R1204	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1205	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1206	ERD25TJ182	CARBON	0.25W	5%	1K8Ω
R1207	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1208	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1211	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1212	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1213	ERD25TJ562	CARBON	0.25W	5%	5K6Ω
R1214	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1218	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1219	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1220	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1221	ERD25TJ562	CARBON	0.25W	5%	5K6Ω
R1222	ERD25TJ471	CARBON	0.25W	5%	470Ω
R1230	ERD25TJ562	CARBON	0.25W	5%	5K6Ω
R1232	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R1233	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R1234	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1236	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R1237	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1238	ERD25TJ183	CARBON	0.25W	5%	18KΩ
R1239	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R1241	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1243	ERD25TJ562	CARBON	0.25W	5%	5K6Ω
R1246	ERD25TJ221	CARBON	0.25W	5%	220Ω
R1248	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1250	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1251	ERD25TJ471	CARBON	0.25W	5%	470Ω
R1252	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1254	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1255	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R1256	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1259	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1260	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1261	ERD25TJ272	CARBON	0.25W	5%	2K7Ω
R1262	ERD25TJ222	CARBON	0.25W	5%	2K2Ω
R1263	ERD25TJ333	CARBON	0.25W	5%	33KΩ
R1264	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1265	ERD25TJ562	CARBON	0.25W	5%	5K6Ω
R1267	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1268	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1269	ERD25TJ682	CARBON	0.25W	5%	6K8Ω
R1270	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R1272	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R1273	ERD25TJ273	CARBON	0.25W	5%	27KΩ
R1274	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R1275	ERD25TJ273	CARBON	0.25W	5%	27KΩ
R1276	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1277	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1278	ERD25TJ100	CARBON	0.25W	5%	10Ω
R1281	ERD25TJ682	CARBON	0.25W	5%	6K8Ω
R1283	TSF19631	FUSIBLE LINK		⚠	
R1308	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1309	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1310	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1311	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1312	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1313	ERD25TJ101	CARBON	0.25W	5%	100Ω

Ref No.	Part No.	Description			
R1314	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1315	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1320	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1321	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1322	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1323	ERD25TJ123	CARBON	0.25W	5%	12KΩ
R1324	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1325	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1327	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1328	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1329	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1331	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R1332	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1333	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1335	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1336	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1337	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1338	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R1339	ERD25TJ101	CARBON	0.25W	5%	100Ω
R1340	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R1341	ERD25TJ153	CARBON	0.25W	5%	15KΩ
R1342	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R1343	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1347	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1348	ERD25TJ183	CARBON	0.25W	5%	18KΩ
R1349	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1350	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R1351	ERD25TJ683	CARBON	0.25W	5%	68KΩ
R2605	ERD25TJ104	CARBON	0.25W	5%	100KΩ
R2606	ERD25TJ221	CARBON	0.25W	5%	220Ω
R2607	ERD25TJ224	CARBON	0.25W	5%	220KΩ
R2608	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2609	ERD25TJ224	CARBON	0.25W	5%	220KΩ
R2610	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2611	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R2612	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2613	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R2614	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2615	ERD25TJ682	CARBON	0.25W	5%	6K8Ω
R2616	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2617	ERD25TJ682	CARBON	0.25W	5%	6K8Ω
R2619	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R2620	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2621	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2622	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R2623	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2624	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2625	ERD25TJ563	CARBON	0.25W	5%	56KΩ
R2626	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2628	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R2629	ERD25TJ391	CARBON	0.25W	5%	390Ω
R2630	ERD25TJ100	CARBON	0.25W	5%	10Ω
R2631	ERDS1FJ101	CARBON	0.5W	5%	100Ω ⚠
R2632	ERD25TJ680	CARBON	0.25W	5%	68Ω
R2638	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2640	ERD25TJ333	CARBON	0.25W	5%	33KΩ
R2641	ERD25TJ153	CARBON	0.25W	5%	15KΩ
R2642	ERD25TJ563	CARBON	0.25W	5%	56KΩ
R2643	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R2644	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R2645	ERD25TJ333	CARBON	0.25W	5%	33KΩ
R2646	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2647	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2649	ERD25TJ563	CARBON	0.25W	5%	56KΩ
R2651	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ
R2652	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ
R2653	ERJ6GMYJ563	S.M. CARB	0.1W	5%	56KΩ
R2654	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω
R2655	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ
R2656	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ
R2657	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2658	ERD25TJ750	CARBON	0.25W	5%	75Ω
R2658	ERJ6GMY0R00	S.M. LINK			
R2659	ERD25TJ471	CARBON	0.25W	5%	470Ω
R2660	ERJ6GMYJ101	S.M. CARB	0.1W	5%	100Ω
R2669	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2670	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2674	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R2675	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2677	ERD25TJ221	CARBON	0.25W	5%	220Ω
R2678	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2689	ERD25TJ562	CARBON	0.25W	5%	5K6Ω

Ref No.	Part No.	Description				
R461	ERD25TJ473	CARBON	0.25W	5%	47KΩ	
R462	ERD25TJ242	CARBON	0.25W	5%	2K4Ω	
R463	ERDS1TJ471	CARBON	0.5W	5%	470Ω	
R464	ERD25TJ821	CARBON	0.25W	5%	820Ω	
R465	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R466	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R467	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R469	ERD25TJ563	CARBON	0.25W	5%	56KΩ	
R470	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R471	ERD25TJ155	CARBON	0.25W	5%	1M5Ω	
R472	ERD25TJ394	CARBON	0.25W	5%	390KΩ	
R482	TSF19631	FUSIBLE LINK				⚠
R501	ERG3FJ682H	METAL	3W	5%	6K8Ω	⚠
R503	ERD25TJ152	CARBON	0.25W	5%	1K5Ω	
R504	ERD25TJ333	CARBON	0.25W	5%	33KΩ	
R505	ERD25TJ242	CARBON	0.25W	5%	2K4Ω	
R506	EVND4AA00B14	HORIZONTAL HOLD			10KΩ	
R507	ERD25TJ272	CARBON	0.25W	5%	2K7Ω	
R508	ERD25TJ104	CARBON	0.25W	5%	100KΩ	
R509	EVNDCAA03B15	HORIZONTAL CENTRE			100KΩ	
R510	ERD25TJ332	CARBON	0.25W	5%	3K3Ω	
R511	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R512	ERO25CKF5111	METAL	0.25W	1%	5K11Ω	⚠
R513	ERJ6GMYJ471	S.M. CARB	0.1W	5%	470Ω	
R514	ERJ6GMYJ562	S.M. CARB	0.1W	5%	5K6Ω	
R515	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R516	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R518	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R520	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R521	ERD25TJ221	CARBON	0.25W	5%	220Ω	
R522	ERD25TJ471	CARBON	0.25W	5%	470Ω	
R523	ERD25TJ684	CARBON	0.25W	5%	680KΩ	
R524	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R525	ERD25TJ104	CARBON	0.25W	5%	100KΩ	
R526	ERD25TJ273	CARBON	0.25W	5%	27KΩ	
R527	ERD25TJ224	CARBON	0.25W	5%	220KΩ	
R528	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R529	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R530	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R531	ERG2ANJ392	METAL	2W	5%	3K9Ω	
R532	ERD25TJ561	CARBON	0.25W	5%	560Ω	
R534	ERQ2CJ122	METAL	2W	5%	1.2KΩ	⚠
R537	ERD25TJ563	CARBON	0.25W	5%	56KΩ	
R538	ERD25TJ563	CARBON	0.25W	5%	56KΩ	
R539	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R540	ERD25TJ101	CARBON	0.25W	5%	100Ω	
R542	ERD25TJ474	CARBON	0.25W	5%	470KΩ	
R543	ERD25TJ333	CARBON	0.25W	5%	33KΩ	
R544	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R545	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R546	ERJ6GMYJ103	S.M. CARB	0.1W	5%	10KΩ	
R547	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R548	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R549	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R550	ERD25FJ220	CARBON	0.25W	5%	22Ω	⚠
R551	ERF7ZK3R9	WOUND	7W	10%	3R9Ω	⚠
R552	ERD25TJ273	CARBON	0.25W	5%	27KΩ	
R554	ERQ14AJ151	METAL	0.25W	5%	150Ω	⚠
R555	ERDS1FJ1R0	CARBON	0.5W	5%	1Ω	⚠
R556	ERQ12HJU1R2	METAL	0.5W	5%	1R2Ω	⚠
R557	ERQ1CJP5R6	METAL	1W	5%	5R6Ω	⚠
R560	ERX12SJR22	METAL	0.5W	5%	0R22Ω	
R561	ERD25TJ153	CARBON	0.25W	5%	15KΩ	
R562	ERD25TJ134	CARBON	0.25W	5%	130KΩ	
R567	ERD25TJ202	CARBON	0.25W	5%	2KΩ	
R568	ERD25TJ274	CARBON	0.25W	5%	270KΩ	
R570	ERJ6GMYJ103	S.M. CARB	0.1W	5%	10KΩ	
R572	ERD25TJ473	CARBON	0.25W	5%	47KΩ	
R574	ERX2SJR56	METAL	2W	5%	0R56Ω	
R575	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R576	ERD25TJ332	CARBON	0.25W	5%	3K3Ω	
R583	ERQ1CJP102	METAL	1W	5%	1KΩ	⚠
R601	ERJ6GMYJ332	S.M. CARB	0.1W	5%	3K3Ω	
R602	ERG1ANJ221	METAL	1W	5%	220Ω	
R603	ERJ6GMYJ221	S.M. CARB	0.1W	5%	220Ω	
R604	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ	
R605	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R608	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R609	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R610	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R611	EVND4AA00B13	D.L. ADJUST			1KΩ	
R612	ERJ6GMYJ122	S.M. CARB	0.1W	5%	1K2Ω	

Ref No.	Part No.	Description				
R613	ERJ6GMYJ391	S.M. CARB	0.1W	5%	390Ω	
R614	ERJ6GMYJ471	S.M. CARB	0.1W	5%	470Ω	
R615	ERJ6GMYJ330	S.M. CARB	0.1W	5%	33Ω	
R616	ERQ14AJ100	METAL	0.25W	5%	10Ω	⚠
R619	ERD25TJ332	CARBON	0.25W	5%	3K3Ω	
R620	EVND4AA00B15	SUB COLOUR			100KΩ	
R621	ERD25TJ683	CARBON	0.25W	5%	68KΩ	
R622	ERQ14AJ100	METAL	0.25W	5%	10Ω	⚠
R623	ERO25CKF6801	METAL	0.25W	1%	6K8Ω	⚠
R627	ERJ6GMYJ563	S.M. CARB	0.1W	5%	56KΩ	
R628	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R629	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R630	ERO25CKF1002	METAL	0.25W	1%	10KΩ	⚠
R631	ERO25CKF1002	METAL	0.25W	1%	10KΩ	⚠
R632	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ	
R633	ERD25TJ392	CARBON	0.25W	5%	3K9Ω	
R634	ERD25TJ274	CARBON	0.25W	5%	270KΩ	
R635	ERJ6GMYJ103	S.M. CARB	0.1W	5%	10KΩ	
R636	ERJ6GMYJ104	S.M. CARB	0.1W	5%	100KΩ	
R638	ERD25TJ334	CARBON	0.25W	5%	330KΩ	
R639	ERJ6GMYJ395	S.M. CARB	0.1W	5%	3M9Ω	
R640	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R641	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R642	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R643	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R644	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R645	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R646	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R647	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R648	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R650	EVN65UA00B23	SECAM DISCRIMINATOR			2KΩ	
R651	ERJ6GMYJ122	S.M. CARB	0.1W	5%	1K2Ω	
R652	ERJ6GMYJ222	S.M. CARB	0.1W	5%	2K2Ω	
R653	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R654	EXBF7L440J	NETWORK COMPONENT				
R656	ERO25CKF2492	METAL	0.25W	5%	24K9Ω	⚠
R657	ERO25CKF1782	METAL	0.25W	5%	17.8Ω	⚠
R658	ERD25TJ184	CARBON	0.25W	5%	180KΩ	
R659	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ	
R660	ERD25TJ155	CARBON	0.25W	5%	1M5Ω	
R661	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R662	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R663	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R666	ERD25TJ561	CARBON	0.25W	5%	560Ω	
R667	ERD25TJ561	CARBON	0.25W	5%	560Ω	
R668	ERD25TJ561	CARBON	0.25W	5%	560Ω	
R683	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R684	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R685	ERD25TJ102	CARBON	0.25W	5%	1KΩ	
R687	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R688	ERJ6GMYJ471	S.M. CARB	0.1W	5%	470Ω	
R689	ERJ6GMYJ102	S.M. CARB	0.1W	5%	1KΩ	
R691	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R692	ERJ6GMYJ473	S.M. CARB	0.1W	5%	47KΩ	
R694	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R695	ERJ6GMYJ683	S.M. CARB	0.1W	5%	68KΩ	
R696	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R697	ERD25TJ100	CARBON	0.25W	5%	10Ω	
R698	ERJ6GMYJ100	S.M. CARB	0.1W	5%	10Ω	
R802	ERF5ZK4R7	WOUND	5W	10%	4R7Ω	⚠
R803	ERDS1TJ274	CARBON	0.5W	5%	270KΩ	
R804	ERDS1TJ274	CARBON	0.5W	5%	270KΩ	
R810	ERQ1CJP3R3	METAL	1W	5%	3R3Ω	⚠
R811	ERW12PKR27	WOUND	0.5W	10%	0R27Ω	⚠
R812	ERG1ANJ221	METAL	1W	5%	220Ω	
R813	ERG1ANJ683	METAL	1W	5%	68KΩ	
R814	ERD75TAJ825	CARBON	0.75W	5%	8M2Ω	⚠
R815	ERQ12HJU5R6	METAL	0.5W	5%	5R6Ω	⚠
R816	ERD25TJ222	CARBON	0.25W	5%	2K2Ω	
R819	ERD25TJ334	CARBON	0.25W	5%	330KΩ	
R820	ERG2ANJ104	METAL	2W	5%	100KΩ	
R821	ERG3FJ104H	METAL	3W	5%	100KΩ	⚠
R823	ERQ14AJ470	METAL	0.25W	5%	47Ω	⚠
R852	ERQ12HJU1R2	METAL	0.5W	5%	1R2Ω	⚠
R854	ERQ12HKUR39	METAL	0.5W	10%	0R39Ω	⚠
R855	ERG3SJU180	METAL	3W	5%	18Ω	
R856	ERD25TJ123	CARBON	0.25W	5%	12KΩ	
R1102	ERO25CKF2371	METAL	0.25W	1%	2K37Ω	⚠
R1103	ERO25CKF2371	METAL	0.25W	1%	2K37Ω	⚠
R1104	ERO25CKF3161	METAL	0.25W	1%	3K16Ω	⚠
R1105	ERO25CKF4871	METAL	0.25W	1%	4K87Ω	⚠
R1106	ERO25CKF9531	METAL	0.25W	1%	9K53Ω	⚠

Ref No.	Part No.	Description			
R2690	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R2691	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R2692	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R2693	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R2694	ERD25TJ101	CARBON	0.25W	5%	100Ω
R2696	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R2699	ERJ6GMYJ560	S.M. CARB	0.1W	5%	56Ω
R3301	ERD25TJ100	CARBON	0.25W	5%	10Ω
R3302	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3303	ERD25TJ563	CARBON	0.25W	5%	56KΩ
R3304	ERD25TJ183	CARBON	0.25W	5%	18KΩ
R3305	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3306	ERD25TJ222	CARBON	0.25W	5%	2K2Ω
R3307	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3308	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3309	ERD25TJ152	CARBON	0.25W	5%	1K5Ω
R3310	EVND4AA00B13	MICOM CONTRAST			1KΩ
R3312	ERD25TJ681	CARBON	0.25W	5%	680Ω
R3313	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3314	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3315	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3501	ERD25TJ221	CARBON	0.25W	5%	220Ω
R3502	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R3503	ERD25TJ471	CARBON	0.25W	5%	470Ω
R3504	ERD25TJ822	CARBON	0.25W	5%	8K2Ω
R3511	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3512	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3513	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R3514	EVND4AA00B24	TEXT CONTAST			20KΩ
R3515	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R3516	ERD25TJ153	CARBON	0.25W	5%	15KΩ
R3518	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3519	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3520	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3521	ERQ12HJ100	METAL	0.5W	5%	10Ω ⚠
R3522	ERD25TJ273	CARBON	0.25W	5%	27KΩ
R3523	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3524	ERQ14AJ100	METAL	0.25W	5%	10Ω ⚠
R3525	ERD25TJ105	CARBON	0.25W	5%	1MΩ
R3530	ERQ14AJ100	METAL	0.25W	5%	10Ω ⚠
R3532	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R3533	ERD25TJ331	CARBON	0.25W	5%	330Ω
R3534	ERD25TJ750	CARBON	0.25W	5%	75Ω
R3535	ERD25TJ750	CARBON	0.25W	5%	75Ω
R3536	ERD25TJ750	CARBON	0.25W	5%	75Ω
R3541	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3542	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3543	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3544	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3548	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3551	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3553	ERD25TJ105	CARBON	0.25W	5%	1MΩ
R3554	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3555	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3556	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3557	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3559	ERD25TJ102	CARBON	0.25W	5%	1KΩ
R3560	ERD25TJ561	CARBON	0.25W	5%	560Ω
R3561	ERD25TJ392	CARBON	0.25W	5%	3K9Ω
R3562	ERD25TJ122	CARBON	0.25W	5%	1K2Ω
R3563	ERD25TJ753	CARBON	0.25W	5%	75KΩ
R3564	ERD25TJ220	CARBON	0.25W	5%	22Ω
R3565	ERD25TJ682	CARBON	0.25W	5%	6K8Ω
R3567	ERD25TJ472	CARBON	0.25W	5%	4K7Ω

Ref No.	Part No.	Description			
R3568	ERD25TJ822	CARBON	0.25W	5%	8K2Ω
R3571	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3572	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3573	ERD25TJ331	CARBON	0.25W	5%	330Ω
R3574	ERD25TJ221	CARBON	0.25W	5%	220Ω
R3580	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3582	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R3584	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R3585	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R3586	ERD25TJ472	CARBON	0.25W	5%	4K7Ω
R3589	ERD25TJ181	CARBON	0.25W	5%	180Ω
R3590	ERD25TJ181	CARBON	0.25W	5%	180Ω
R3591	ERD25TJ181	CARBON	0.25W	5%	180Ω
R3592	ERD25TJ101	CARBON	0.25W	5%	100Ω
R3593	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R3594	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R3595	ERD25TJ473	CARBON	0.25W	5%	47KΩ
R3596	ERD25TJ332	CARBON	0.25W	5%	3K3Ω
R3597	ERD25TJ104	CARBON	0.25W	5%	100KΩ
R3598	ERD25TJ104	CARBON	0.25W	5%	100KΩ

SWITCHES

S301	EVQR1AL13	SWITCH
S401	EVQR4AL13	SWITCH
S801	ESB99902S	SWITCH ⚠
S1101	EVQQBH12T	SWITCH
S1102	EVQQBH12T	SWITCH
S1104	EVQQBH12T	SWITCH
S1105	EVQQBH12T	SWITCH
S1107	EVQQBH12G	SWITCH
S1109	EVQQBH12G	SWITCH
S1110	EVQQBH12G	SWITCH
S1111	EVQQBH12G	SWITCH
S1112	EVQQBH12G	SWITCH
S1113	EVQQBH12T	SWITCH
S1114	EVQQBH12T	SWITCH
S1115	EVQQBH12T	SWITCH
S1116	EVQQBH12T	SWITCH
S1117	EVQQBH12T	SWITCH

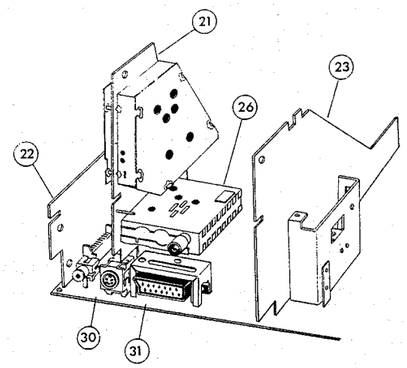
TRANSFORMERS

T531	TLH15458E	TRANSFORMER
T551	TLF15621F	FLYBACK TRANSFORMER ⚠
T801	ETS42K440A	TRANSFORMER
T1201	ETP28Z291AF	TRANSFORMER

FILTERS

X101	G1962-N100	SAW FILTER
X151	EFCS5R5MW5	FILTER
X210	EFCS6R5MS5	FILTER
X211	EFCS5R5MS5	FILTER
X301	TLK156053	COIL
X601	TSS2031-M	CRYSTAL
X1210	EFOGC6004A4	FILTER
X3501	TSS2121-N	CRYSTAL
X3503	TSS2077-M	CRYSTAL

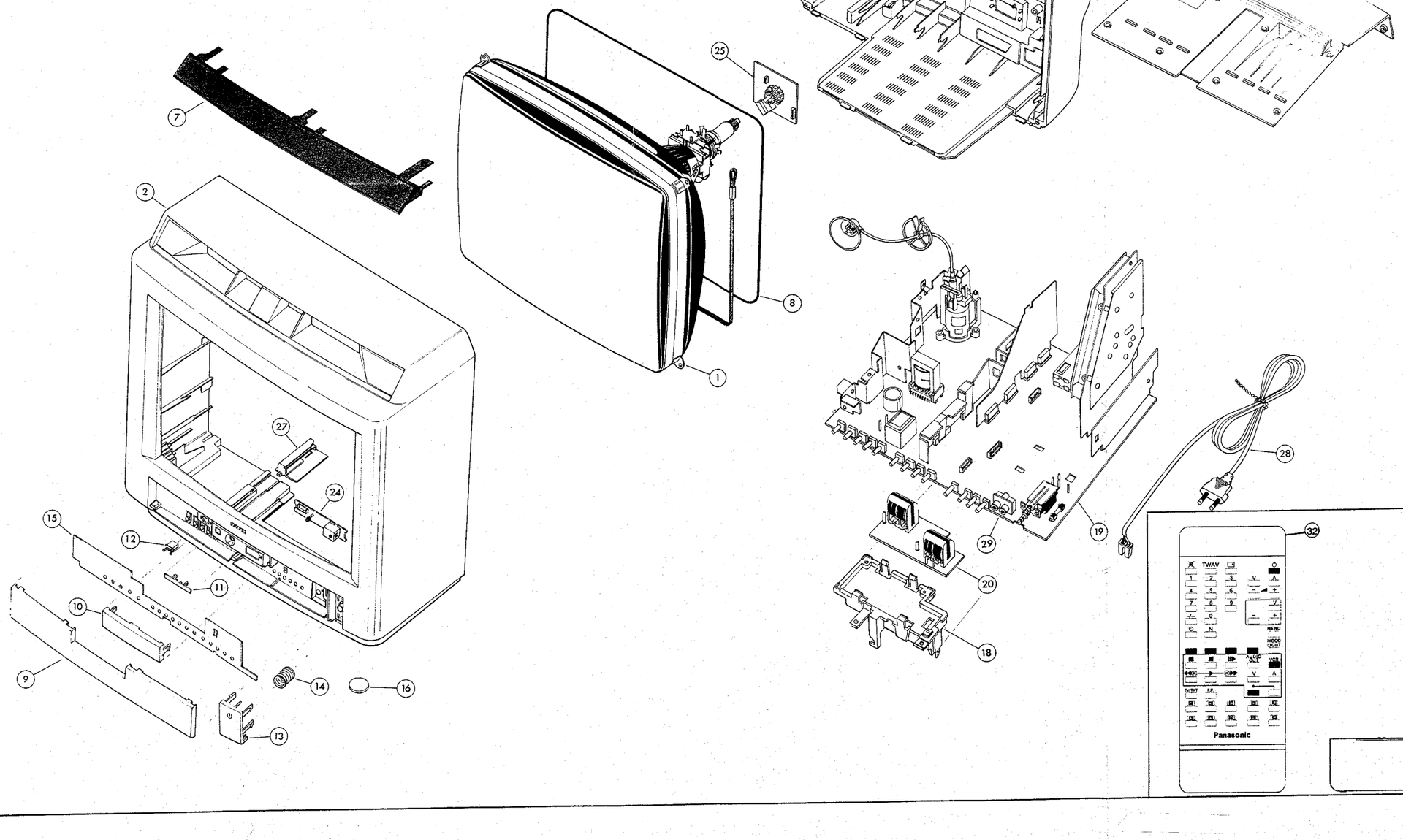
PARTS LOCATION



Note :
The number on mechanical parts indicates Ref. No of Replacement Parts List.

Anmerkung :
Die Nummer auf den mechanischen Teilen zeigt die Bezugsnummer der Ersatzteilliste an.

EXPLOSIONSZEICHNUNG



H BOARD ⚠
TNP107846AD

IC3508
TC4066BP
SWITCHING

IC3505
L78M05-M-RB or
AN78M05LB
5V AVR

IC3501
SAA5246P/EM4
IVT

IC3506
FCB61C65 or
M5M5165P or
MN4464-08LL
SRAM

IC3507
MAB461PW216
TEXT CONTROL

IC2601
LA7222-TV
TV/AV SW

IC521
AN5650
SYNC.SEP

(TO E12)
(TO E13)
(TO E10)
(TO E11)

C BOARD ⚠
TNP107803AJ

IC2651
LA7222-TV
S/NORMAL SW

H	NORMAL
L	S-MODE

IC601
AN5603K
VIDEO PROCESSOR

IC602
AN5633K
SECAM DECODER

DISCRI

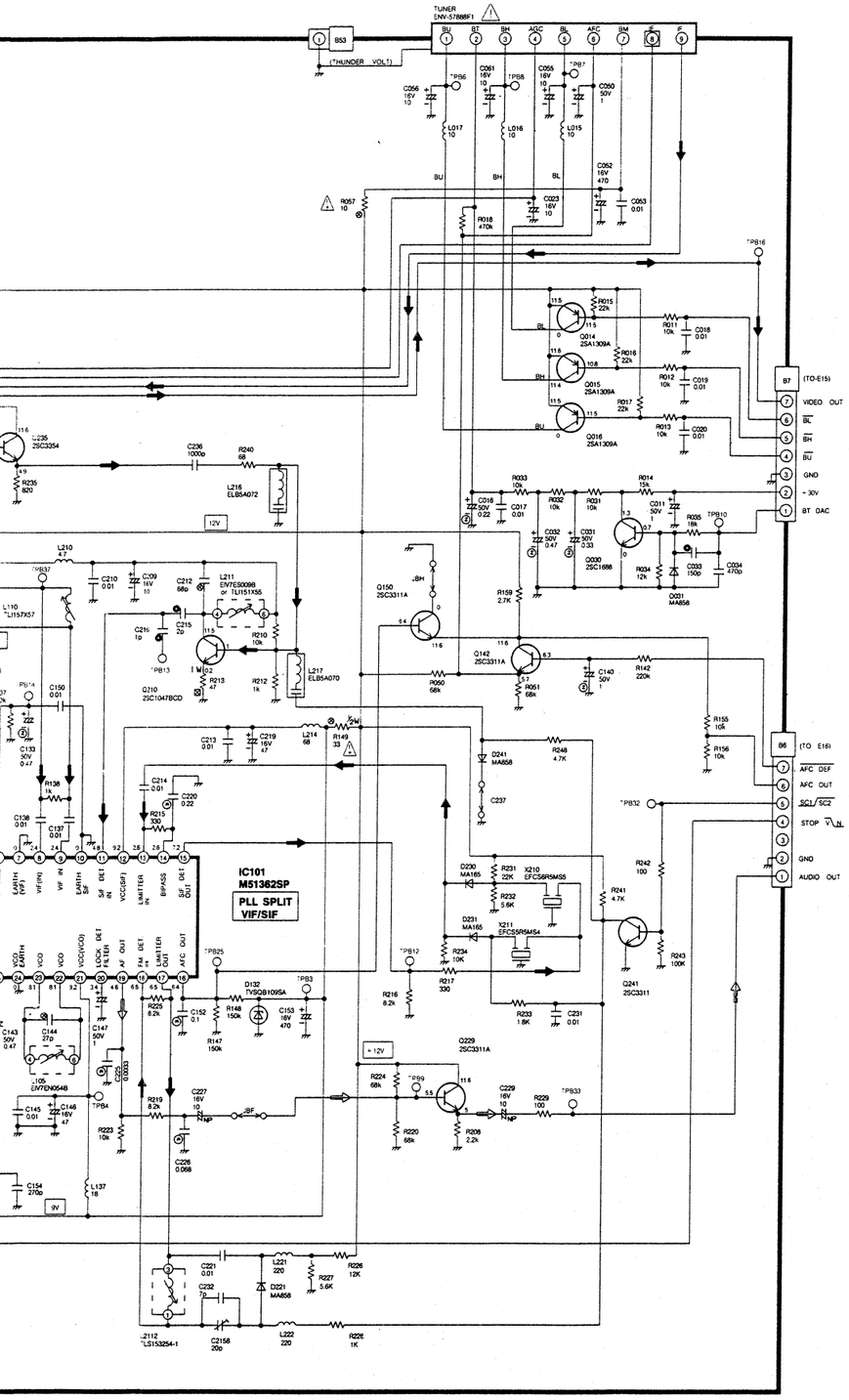
B BOARD ⚠
TNP107801AE

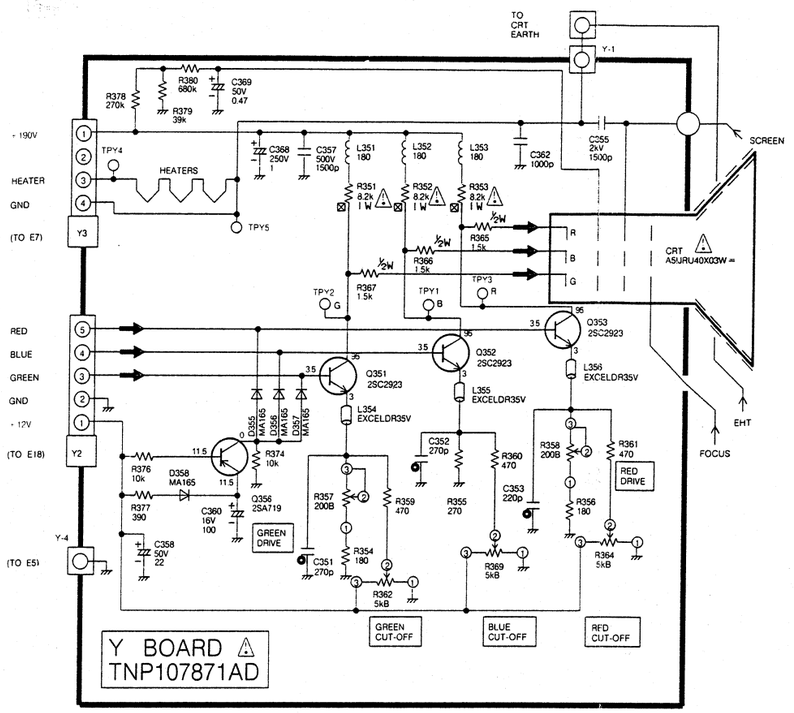
H BOARD ⚠
TNP107859AB

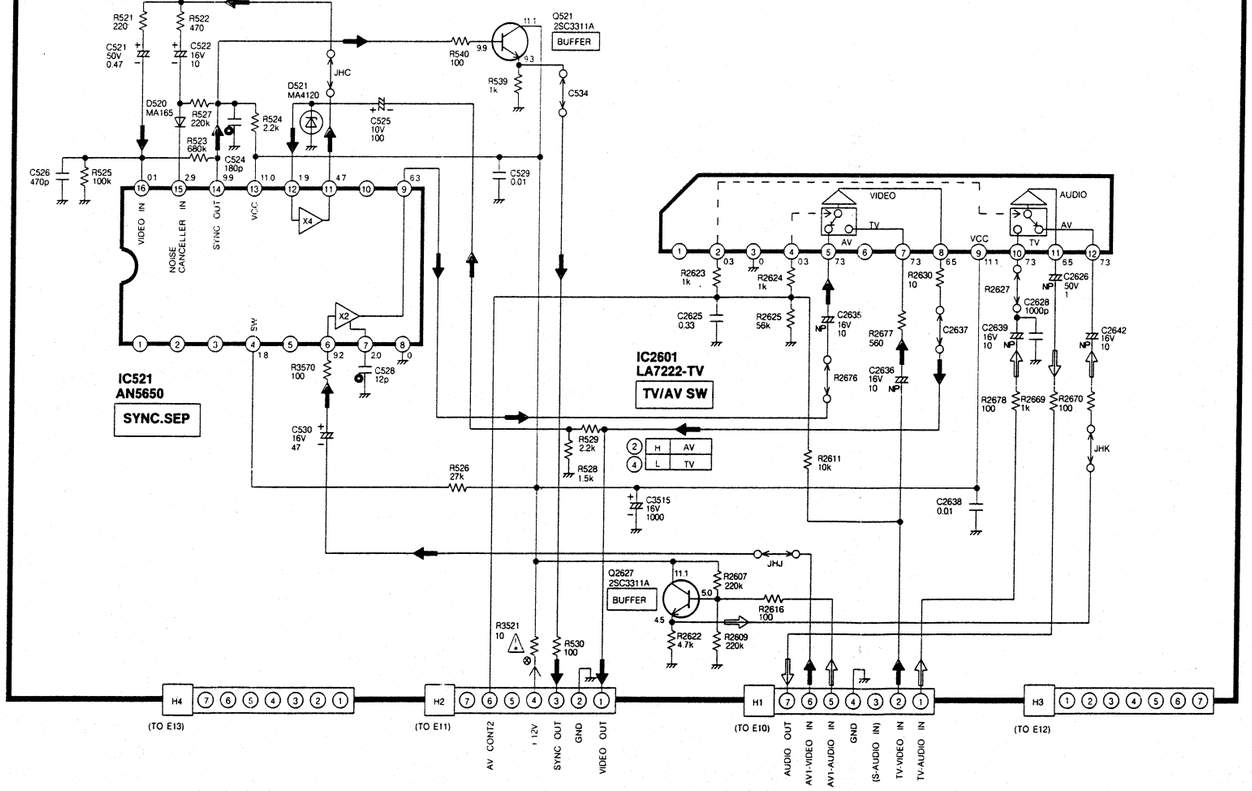
IC161
AN5421
SYNC DETECTOR

IC101
M51362SP
PLL SPLIT
VIF/SIF

IC521
AN5650
SYNC.SEP


TUNER
ENV-57888F1
(THUNDER VOL1)
IC101
M51362SP
PLL SPLIT
VIF/SIF
Q014 2SA1309A
Q015 2SA1309A
Q016 2SA1309A
Q150 2SC3311A
Q142 2SC3311A
Q210 2SC1047BCD
Q229 2SC3311A
Q241 2SC3311
D132 TVSQB109SA
D241 MA858
D230 MA165
D231 MA165
D021 MA858
D221 MA858
(TO E15)
VIDEO OUT
BL
BH
BU
GND
- 30V
BT DAC
(TO E16)
AFC DEF
AFC OUT
SC1/SC2
STOP
GND
AUDIO OUT
12V
9V


TO CRT EARTH
Y-1
SCREEN
CRT ASURU40X03W
EHT
FOCUS
+ 190V
HEATER
GND
(TO E7)
RED
BLUE
GREEN
GND
- 12V
(TO E18)
(TO E5)
HEATERS
Q351 2SC2923
Q352 2SC2923
Q353 2SC2923
Q355 2SA719
D355 MA165
D356 MA165
D357 MA165
D358 MA165
L354 EXCELDR35V
L355 EXCELDR35V
L356 EXCELDR35V
RED DRIVE
GREEN DRIVE
GREEN CUT-OFF
BLUE CUT-OFF
RED CUT-OFF
Y BOARD ⚠
TNP107871AD


H BOARD ⚠
TNP107859AB
IC521
AN5650
SYNC.SEP
IC2601
LA7222-TV
TV/AV SW
Q521 2SC3311A
BUFFER
Q2627 2SC3311A
BUFFER
X4
X2
VIDEO IN
NOISE CANCELLER IN
SYNC OUT
VCC
SW
VIDEO
AUDIO
TV
AV
(TO E13)
(TO E11)
(TO E10)
(TO E12)
AV CONT2
+ 12V
SYNC OUT
GND
VIDEO OUT
AUDIO OUT
AV1-VIDEO IN
AV1-AUDIO IN
GND
(S-AUDIO IN)
TV-VIDEO IN
TV-AUDIO IN

IC1212
MN1280-R
RESET

IC1202
ST24C02A
OR 24C02A
EEPROM

IC1213
MN1872419
MICRO

IC3301
AN5860
SWITCHING

IC3302
AN5862K
SWITCHING

IC851
AN7812LB
12V REG.

IC1204
AN78M05LB
5V REG.

IC251
AN5265
AUDIO AMP

IC801
STR54041-M
POWER REG.

IC1301
AN5560
TIMEBASE
SWITCHING

IC451
LA7837
VERTICAL
OUTPUT

D811
TLP621GR-LF2
PHOTO
CDUPLER

COLD

HOT

DIFFERENCE LIST		
C.R.	TX-21M1TD	TC-21M1RD
C3310	DELETE	0.1 uF
C3311	DELETE	0.1 uF
C3312	DELETE	0.1 uF

PLEASE REFER TO PARTS LIST FOR SUFFIX

E BOARD
TNP197069

IC1212
MN1280-R
RESET

IC1202
ST24C02A
OR 24C02A
EEPROM

IC3301
AN5860
SWITCHING

IC1213
MN1872419
MICRO

IC3302
AN5862K
SWITCHING

IC851
AN7812LB
12V REG.

D811
TLP621GR-LF2
PHOTO COUPLER

IC1301
AN5560
TIMEBASE SWITCHING

IC451
LA7837
VERTICAL OUTPUT

IC1610
SBX1610
REMOTE RECEIVER

N BOARD
TNP107811

P BOARD
TNP107842AC

E BOARD
TNP197069

DIFFERENCE LIST		
C.R.	TX-21M1TD	TC-21M1RD
C3310	DELETE	0.1 uF
C3311	DELETE	0.1 uF
C3312	DELETE	0.1 uF

PLEASE REFER TO PARTS LIST FOR SUFFIX